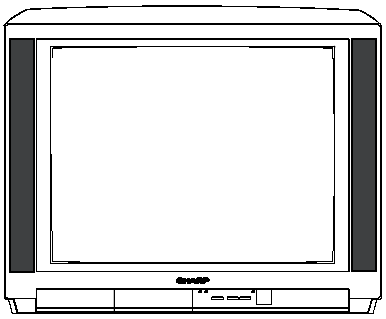
SHARP®

SERVICE MANUAL

SE0028JS74E00
Issued: 2nd Sept. 2002

GA-200 CHASSIS

PAL B/G, I / SECAM L/L', B/G, D/K SYSTEM COLOUR TELEVISION



MODEL 28JS-74E C/F

In the interests of user safety (required by safety regulations in some countries) the set should restored to its original condition and only parts identical to those specified should be used.

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SHARP CORPORATION

This document has been published to be used for after sales service only.

SERVICE MANUAL UPDATE LOG SHEET

Technical Report No. Technical Bulletin No.	Cause / Solution	Part No.	Page No.	Application Data /Serial No.

Use this page to keep any special servicing information as Technical Report (Bulletin), Technical Information, etc.
If only part number changes are required, just change part number directly the part number in the Parts Listing Section.
If you need more information, please refer to the Technical Report (Bulletin).

ELECTRICAL SPECIFICATIONS

- Power Input ..... 220V-240 Volts AC 50Hz

- Power Consumption
  - Normal Operation (Method IEC60107) 80W
  - Stand-by Operation 1.5W

- Audio Power Output Rating (MPO) / Impedance
  - Internal Left Speaker 10W, 7Ω
  - Internal Right Speaker 10W, 7Ω

- Speakers
  - Left / Right ..... 12 x 6cm

- Convergence (Maximum Misconvergence)
  - Static (Centre) between any two colours ... 0.08 cm
  - Dynamic after static equals zero
    - Within 10cm (4") circle ..... 0.12 cm
    - 10-25cm (4-10") circle ..... 0.20 cm
    - Everywhere else ..... 0.28 cm

- Focus ..... High Bi-Potential Electrostatic

- Sweep Deflection ..... Magnetic

- Picture Intermediate frequency
  - L' 33.9MHz
  - L, B/G, D/K,I 38.9MHz
- Sound Carrier Trap
  - L' 40.4MHz
  - L, D/K 32.4MHz
  - B/G 33.4MHz
  - I 32.9MHz

- Adjacent Sound Carrier Trap
  - L' 32.4MHz
  - L, D/K, B/G 40.4MHz
  - I 40.9MHz
- Adjacent Picture Carrier Trap
  - L' 41.9MHz
  - L, D/K, I 30.9MHz
  - B/G 31.9MHz

- Aerial Input Impedance
  - VHF/UHF ..... 75 ohm Unbalanced

- Tuning Ranges ..... 45.75MHz thru 855.25 MHz
  - VHF: IR A - J / S1 - S41 CH (Hiperband)
  - UHF: I21 - I69 CH
  - CATV Special Channels

- White Level

  Set brightness control to get total picture tube cathode current of 600 μA under no signal condition. Maximum necessary correction of each picture tube cathode current to get 7250 degrees K-11 MPCD (28JS-74EC) or 8550 degrees K+1 MPCD (28JS-74E/EF) screen temperature should not exceed 15% of its original value.

28JS-74EC	**X=0.304 ± 0.015**	**Y=0.306 ± 0.015**	**7250ºK, K-11 MPCD**
28JS-74E/EF	**X=0.290 ± 0.015**	**Y=0.300 ± 0.015**	**8550ºK, K+1 MPCD**

Specifications are subject to change without prior notice.

MODEL DESTINATION (Operation Manual languages).

28JS-74E: Dutch, French, German.
28JS-74EC: Czech, English, Hungarian, Polish, Romanian, Russian, Slovakian.
28JS-74EF: French.

WARNING

The chassis in this receiver is partially hot. Use an isolation transformer between the line cord plug and power receptacle, when servicing this chassis.
To prevent electric shock, do not remove cover. No user-serviceable parts inside. Refer servicing to qualified service personnel.

IMPORTANT SERVICING NOTES

Only qualified service personnel are allowed to carry out maintenance and repair of this receiver.

Servicing of High Voltage System and CRT

It is important that the static charge is removed from the high voltage system when carrying out work on the receiver. This can be achieved by connecting a 10K resistor (with a suitably insulated lead) from the CRT cavity connector to the CRT ground tag. This must be carried out with the AC supply disconnected from the receiver.

Note the following:

- The CRT in this receiver employs Integral Implosion Protection.
- If the CRT has to be changed it MUST be replaced with the correct type for continued safe working.
- DO NOT lift the CRT by its neck.
- When handing the CRT, ensure that shatterproof goggles are worn.
- Ensure that the CRT is discharge before handling.

X-Ray

This receiver is designed to keep any x-ray emission to an absolute minimum. Some fault conditions and servicing procedures may produce potentially hazardous x-ray radiation levels. This is a problem when in close proximity to the receiver for long periods of time. To reduce any risks associated with this, please observe the following precautions:

1. When undertaking any servicing on this chassis, DO NOT increase the EHT to more than 30 KV, (at a instantaneous beam current of 1500μA).

2. Ensure that during normal operation the EHT does not exceed 30KV (at a beam current of 1000μA). This level has been preset in the factory. Always check that this level has not been exceeded after carrying out any repair on the receiver.

3. DO NOT replace the CRT with any other type than that specified in the parts listing as this may cause excessive x-ray radiation.

Before returning the receiver to the customer

In addition to the above checks, the following should also be carried out before returning the receiver to the customer.

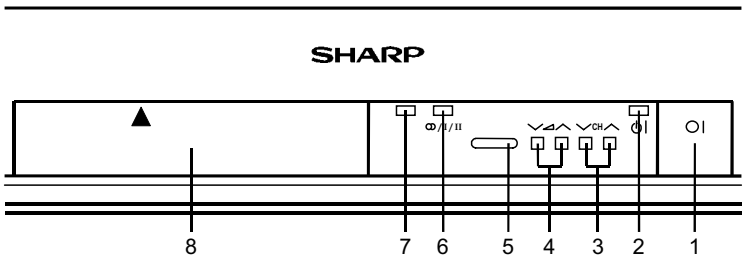
1. Inspect all the leads to ensure that they are dressed correctly and that they are not obstructed or pinched by any other parts.

2. Ensure that all protective devices are in good condition. These will include nonmetallic control knobs, insulating fish papers, cabinets backs, compartment covers or shields, mechanical insulators, etc.

CONTROLS & TERMINALS

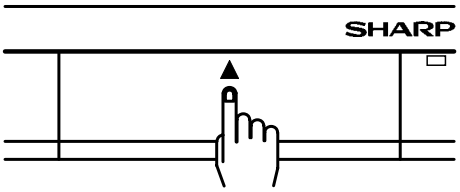
FRONT TV

1. Main Power On/Off Switch
2. Power Indicator
3. Program Selector (UP/DOWN)
4. Volume Buttons (UP/DOWN)
5. Remote Control Sensor
6. Sound Indicator
7. Remote Control Indicator
8. DOOR



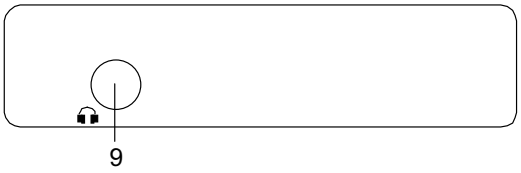
HOW TO OPEN THE DOOR

Press the top of the door, opening it slightly.
Hook your finger inside and pull open.



Behind the door

9. Headphone Socket (3.5 mm Ø / 16~600 Ω)



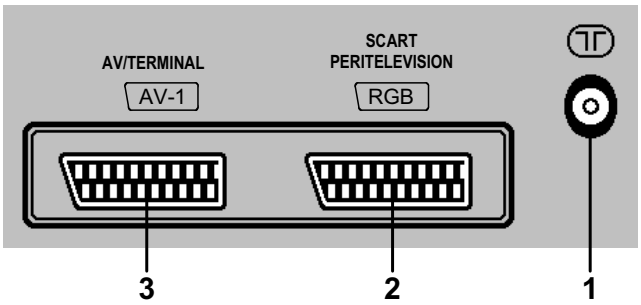
REAR TV

RF Input

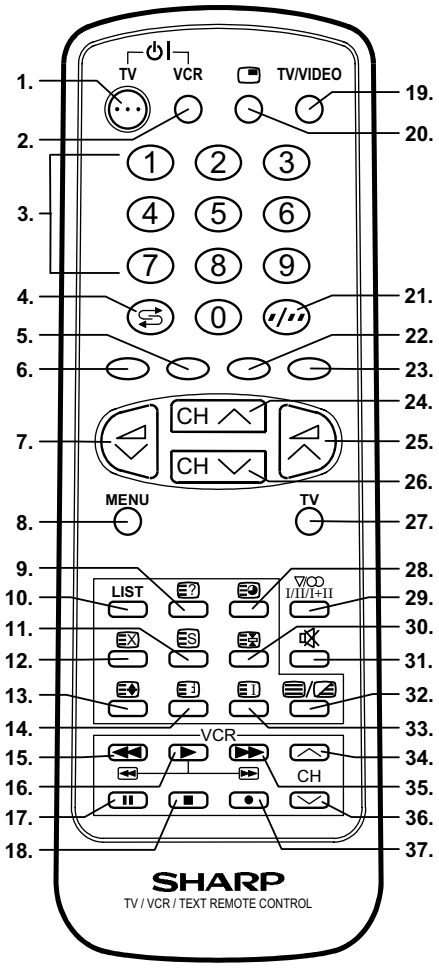
1. Antenna terminal

21-pin In/Out

2. 21-pin Euro SCART (RGB)
3. 21-pin Audio/Video (AV-1) With S-Video Input



REMOTE CONTROL



TV	**1.**	Stand-by ON/OFF switch (TV)
Video	**2.**	Power ON / OFF switch (VCR)
TV	**3.**	Digit buttons 0 ~ 9
	4.	Flashback button
Teletext	**5.**	Colour button (green)
	6.	Colour button (red)
TV	**7.**	Volume Down/Cursor control Left
	8.	Menu button
Teletext	**9.**	Reveal button
	10.	List selector
	11.	Store button
	12.	Cancel button
	13.	Top/ Bottom/Full button
	14.	Reset button
Video	**15.**	Rewind/picture search/reverse
	16.	Play button
	17.	Pause / Still button
	18.	Stop button
TV	**19.**	TV / VIDEO selector
	20.	100Hz Fast Menu button
	21.	Single/Double entry
Teletext	**22.**	Colour button (yellow)
	23.	Colour button (blue)
TV	**24.**	Channel Up/Cursor control Up
	25.	Volume Up/Cursor control Right
	26.	Channel Down/Cursor control Down
	27.	TV button
TV/Teletext	**28.**	Time button
TV	**29.**	Sound mode selector
Teletext	**30.**	Hold button
TV	**31.**	Sound Mute button
Teletext	**32.**	Text/Mix button
	33.	Index button
Video	**34.**	Channel Up selector
	35.	Fast forward/picture search/forward
	36.	Channel Down selector
	37.	Record button

ADJUSTMENT PROCEDURES

All adjustments to this chassis, except for focus, are carried out in the Service Mode.

Service Mode

The Service Mode is provided to enable the engineer to correctly set up the receiver to the CRT fitted in the set. Note that these adjustments may vary from one receiver to another.

To enter the Service Mode, carry out the following procedure.

1. Connect a test pattern to the antenna terminal.
2. Tune the receiver to this signal.
3. Turn the receiver off using the mains switch.
4. Press volume down and channel up buttons on the front of the receiver at the same time.
5. Keeping these buttons pressed, turn the mains on.
6. When the set starts up it will be in Service Mode.
7. Release the two buttons.

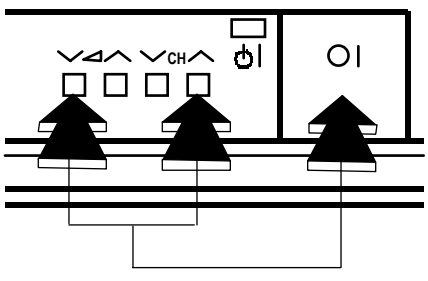


Figure 1

- Use the channel up and down buttons to move between the options.
- Use the volume control buttons to change the data.
- To store the data, use the stand-by button on the remote control.
- To exit the Service Mode, turn the receiver off using the mains switch.

When the Service Mode is entered the following On Screen Display appears:

SERVICE SOFTWARE **.**
SW on: XXXX SW off: XXXX Hours ON: XXXX

The figures displayed in the “XXXX” locations are hexadecimal representations of the number of times that particular function has been executed. For example if the hexadecimal number displayed after “SW ON” was 0E4A, this would correspond to the receiver being turned on 3658 times.

Adjustment menu:

The following adjustments can be carried out in the Service Mode.

01. Horizontal Shift
02. East West Width
03. Pin Phase
04. Pin Amp
05. Upper corner correction
06. Lower corner correction
07. Extreme Corner Correction
08. Vertical Linearity
09. Vertical Angle
10. Vertical Bow
11. Vertical Amplitude
12. S Correction
13. Vertical Shift
14. Red Cut Off
15. Green Cut Off
16. Blue Cut Off
17. Alter NVM Pag *(Page)*
18. Alter NVM Pos (*Position*)
19. Alter NVM Val *(Value)*
20. Teletext Mix Mode Contrast
21. Teletext Contrast
22. OSD Contrast
23. DVCO Adjustment (Only PAL)
24. DVCO Adjustment (Only NTSC)
25. AGC Adjustment
26. Auto Installation On/Off

When in the Service Mode it is possible to access certain functions by using the teletext keys as below.

- By pressing the Blue button each adjustment can be directly accessed via the remote control. Referring to the list above, press the Blue button followed by the adjustment number, this will directly access the selected adjustment. If any number above 26 is selected, the set will revert to the Service Mode entry page. To access a number less than 10, use the 0 key first, i.e. 02.
- Press the Yellow button to go straight to the AGC adjustment.
- Press the Green button once to enter “FACTORY VOLUME” level. Use volume control keys to change the setting. The original value will be recovered after resetting the TV set.
- Press the Green button twice to enter “FACTORY BALANCE” level. Use volume control keys to change the setting. The original value will be recovered after resetting the TV set.
- Press the Red button once to enter “FACTORY CONTRAST” level. Use volume control keys to change the setting. The adjustment is stored automatically.
- Press the Red button twice to enter “FACTORY BRIGHTNESS” level. Use volume control keys to change the setting. The adjustment is stored automatically.
- Press the Red button three times to enter “FACTORY COLOUR” level. Use volume control keys to change the setting. The adjustment is stored automatically.
- If buttons 0 through 9 are pressed, the set will automatically go to that program number.
  Note that in case the blue button has been used before, the program number should be requested by using two digit number (01...99).
- By pressing the Menu button, the unit will normalise Picture and Audio settings. The Auto Installation is then turned “on”.

The following geometry adjustments can be carried out. Detailed instructions on how to execute these are given on the following pages:

Horizontal

- Horizontal Shift
- East West Width
- Pin Phase
- Pin Amp
- Vertical angle
- Vertical bow
- Upper Corner Amplitude
- Lower Corner Symmetry
- Extreme Corner Symmetry

Vertical

- Vertical Amplitude
- S Correction
- Vertical Shift
- Vertical Linearity

Just in case the TV set requires a full geometry adjustment, please proceed first with Vertical according to the above order, and after that, adjust Horizontal according to the above order.

Horizontal Shift

Adjust the horizontal shift so that the picture is centred.
The effect of this adjustment is shown in figure 2.

- When the volume up button is pressed, the picture moves to the left.
- When the volume down button is pressed, the picture moves to the right.
- Press the stand-by button on the remote control to store.

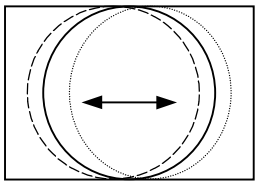


Figure 2

East West Width

Adjust the East West Width so that 8% over-scan is achieved.
The effect of this adjustment is shown in figure 3.

- When the volume up button is pressed, horizontal scanning increases.
- When the volume down button is pressed, horizontal scanning decreases.
- Press the stand-by button on the remote control to store.

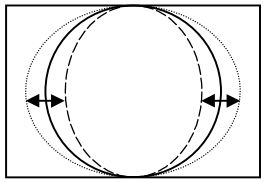


Figure 3

Pin Phase

Adjust the Pin Phase so that the picture is symmetrical top and bottom.
The effect of this adjustment is shown in figure 4.

- When the volume up button is pressed, side pincushion changes.
- When the volume down button is pressed, side pincushion changes.
- Press the stand-by button on the remote control to store.

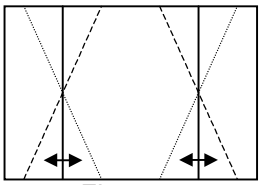


Figure 4

Pin Amp

Adjust the Pin Amplitude so that the picture is centred.
The effect of this adjustment is shown in figure 5.

- When the volume up button is pressed, side pincushion changes from pincushion to barrel shape.
- When the volume down button is pressed, side pincushion changes from barrel shape to pincushion.
- Press the stand-by button on the remote control to store.

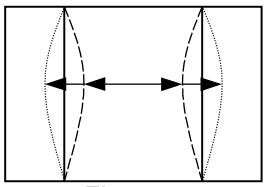


Figure 5

Upper Corner Correction

Adjust the Upper Corner Correction so that the picture is centred.
The effect of this adjustment is shown in figure 6.

- When the volume up button is pressed, side pincushion changes from pincushion to barrel shape.
- When the volume down button is pressed, side pincushion changes from barrel shape to pincushion.
- Press the stand-by button on the remote control to store.

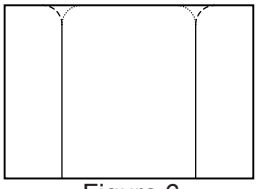


Figure 6

Lower Corner Correction

Adjust the Lower Corner Correction so that the picture is centred.
The effect of this adjustment is shown in figure 7.

- When the volume up button is pressed, side pincushion changes from pincushion to barrel shape.
- When the volume down button is pressed, side pincushion changes from barrel shape to pincushion.
- Press the stand-by button on the remote control to store.

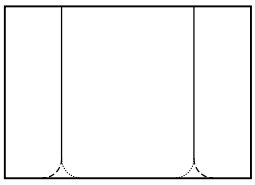


Figure 7

Extreme Corner Correction

Adjust the Extreme Corner Correction so that the picture is centred.
The effect of this adjustment is shown in figure 8.

- When the volume up button is pressed, side pincushion changes from pincushion to barrel shape.
- When the volume down button is pressed, side pincushion changes from barrel shape to pincushion.
- Press the stand-by button on the remote control to store.

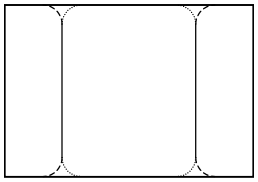


Figure 8

Vertical Linearity

Adjust the Vertical Linearity so that the upper and lower parts of the picture are symmetrical.
The effect of this adjustment is shown in figure 9.

- When the volume up button is pressed, the upper picture scanning decreases and the lower picture scanning increases.
- When the volume down button is pressed, the upper picture scanning increases and the lower picture scanning decreases.
- Press the stand-by button on the remote control to store.

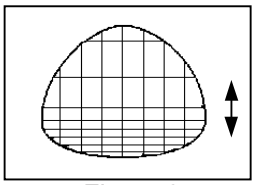


Figure 9

Vertical Angle

Adjust the Vertical Angle so that the picture is centred.
The effect of this adjustment is shown in figure 10.

- When the volume up button is pressed, the vertical angle changes to right.
- When the volume down button is pressed, the vertical angle changes to left.
- Press the stand-by button on the remote control to store.

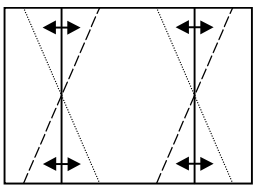


Figure 10

Vertical Bow

Adjust the Vertical Bow so that the picture is centred.
The effect of this adjustment is shown in figure 11.

- When the volume up button is pressed, the vertical bow changes to left.
- When the volume down button is pressed, the vertical bow changes to right.
- Press the stand-by button on the remote control to store.

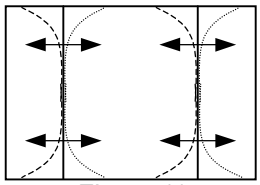


Figure 11

Vertical Amplitude

Adjust the Vertical Amplitude so that 8% over-scan is achieved.
The effect of this adjustment is shown in figure 12.

- When the volume up button is pressed, the vertical size of the picture increases.
- When the volume down button is pressed, the vertical size of the picture decreases.
- Press the stand-by button on the remote control to store.

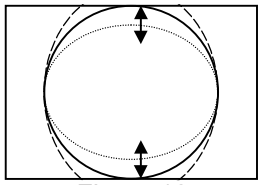


Figure 12

S Correction

Adjust the S Correction so that the picture symmetrical between the top, centre and bottom.
The effect of this adjustment is shown in figure 13.

- When the volume up button is pressed, the top and bottom scanning decreases and the centre scanning increases.
- When the volume down button is pressed the top and bottom scanning increases and the centre scanning decreases.
- Press the stand-by button on the remote control to store.

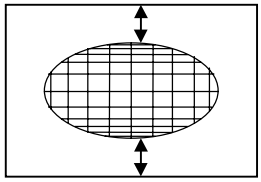


Figure 13

Vertical Shift

Adjust the Vertical Shift so that the picture is centred.
The effect of this adjustment is shown in figure 14.

- When the volume up button is pressed, the picture moves up.
- When the volume down button is pressed, the picture moves down.
- Press the stand-by button on the remote control to store.

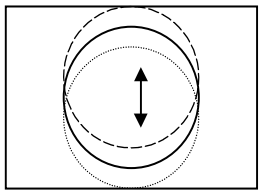


Figure 14

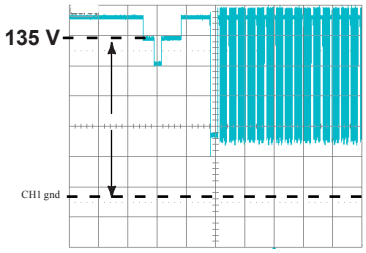
Colour Adjustments

The following adjustments should only be carried out when the CRT or IC801 are replaced.

G2, Cut Off and Gain Adjustments

1. Follow the procedure below to set the G2

1.1 Tune the set to the output of a signal generator (cross hatch pattern).
1.2 In the user menu, set contrast to 80/100 and brightness to 40/100.
1.3 Connect the oscilloscope to the TP1801 and adjust G2 to read 135V on the sensor pulse as in the drawing:



Note:
Oscilloscope should be adjusted for vertical TV field trigger and synchronized with video signal.

2. Follow the procedure below to set the Cut Off.

2.1 Adjust G2.
2.2 Tune a white pattern.
2.3 Adjust colour to minimum.
2.4 Position colorimeter in the centre of screen.
2.5 Adjust brightness and contrast to obtain a luminance of ≈20 NITS.
2.6 Operate in Service Mode and select location RED CUT OFF, GREEN CUT OFF and BLUE CUT OFF, to obtain colour coordinates:

X=0.304 ± 0.015	Y=0.306 ± 0.015	(28JS-74EC)
X=0.290 ± 0.015	Y=0.300 ± 0.015	(28JS-74E/EF)

To increase press volume-up button and to decrease press volume down button.

RED CUT OFF	alter «X» coordinate.
GREEN CUT OFF	alter «Y» coordinate.
BLUE CUT OFF	alter «X» and «Y» coordinate.

They will be stored automatically.

Changing NVM Data

To change the data contained within the Non Volatile Memory, it is necessary to first select the page the data is stored in, then the position and finally to change the data itself. The procedure below outlines this process.

1. While on ALTER NVM PAGE, use the volume up/down buttons to change this data (data is shown in hexadecimal format).
2. Press the channel up button and ALTER NVM POSITION appears, use the volume up/down buttons to change this data (data is shown in hexadecimal format).
3. Press the channel up button and ALTER NVM VALUE appears, use the volume up/down buttons to change this data (data is shown in hexadecimal format).
4. Once this data has been set, press the stand-by button to store.
5. If another NVM value has to be changed, use the channel down button to select the page or position and repeat as necessary.

Note:
DO NOT change any NVM data, unless you have been advised to do so by a Sharp representative. If data is incorrectly changed, serious damage may occur to the receiver.

Contrast Adjustments

Three types of contrast levels can be varied as listed below:

- TELETEXT MIX MODE CONTRAST
- TELETEXT CONTRAST
- OSD CONTRAST

Use the volume up/down buttons to adjust to a suitable level, they will be stored automatically.

DVCO Adjustment (PAL)

Carry out the DVCO Adjustment (PAL) as shown below:
1. Receive a color pattern signal (PAL).
2. While in the DVCO ADJUSTMENT (PAL) menu, press the stand-by button.
3. The adjustment will be carried out automatically and stored.

DVCO Adjustment (NTSC)

Carry out the DVCO Adjustment (NTSC) as shown below:

1. Receive a color pattern signal (NTSC 3.58).
2. While in the DVCO ADJUSTMENT (NTSC) menu, press the stand-by button.
3. The adjustment will be carried out automatically and stored.

Automatic Gain Control Adjustment (B/G, D/K, I)

To correctly align the Automatic Gain Control, follow the procedure outlined below:

1. Tune the set into a pattern generator on E-12 (B/G).
2. Enter the Service Mode.
3. Press the channel up button of Remote Control to select "Automatic Gain Control"
4. Press volume up/down to adjust to "109 dB/mV".
5. It will be stored automatically.
6. Turn off the receiver by Main switch to exit the Service Mode.

Automatic Gain Control Adjustment (L, L')

To correctly align the Automatic Gain Control, follow the procedure outlined below:

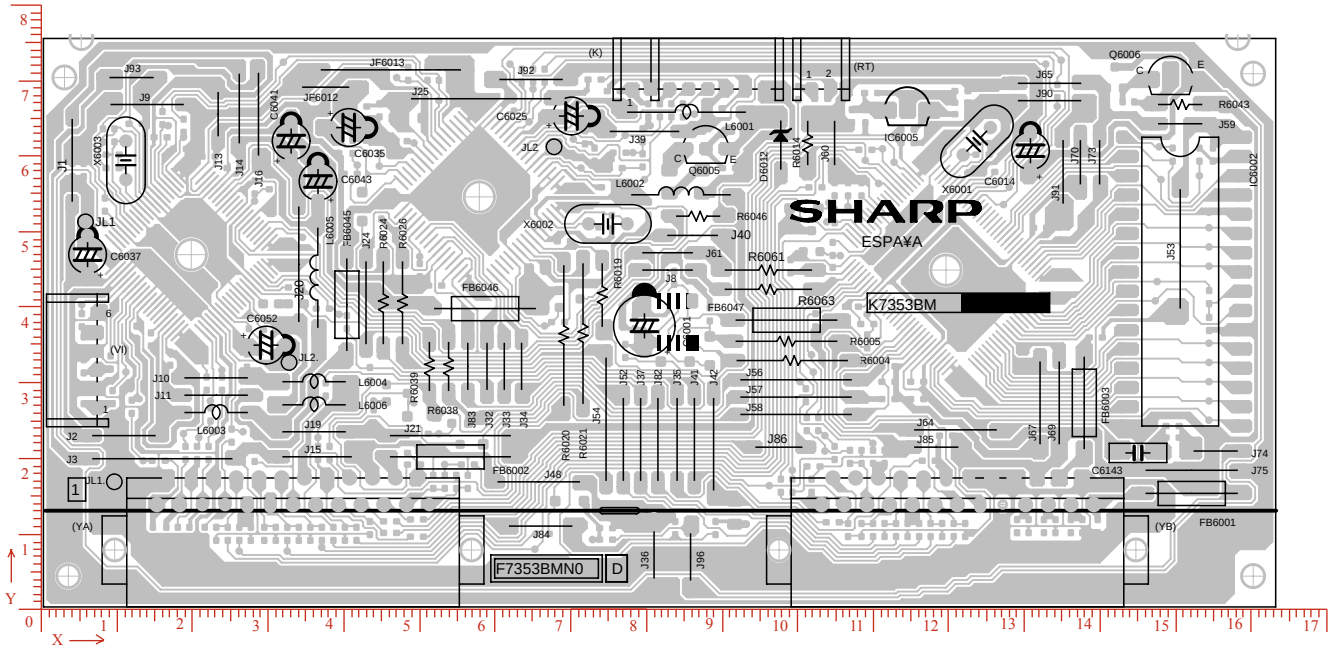
1. Tune the set into a pattern generator on F-10.
2. Enter the Service Mode.
3. Press the Channel up button of Remote Control to select "Automatic Gain Control"
4. Press volume up/down to adjust to "103 dB/mV".
5. It will be stored automatically.
6. Turn off the receiver by Main switch to exit the Service Mode.

Auto Installation On/Off

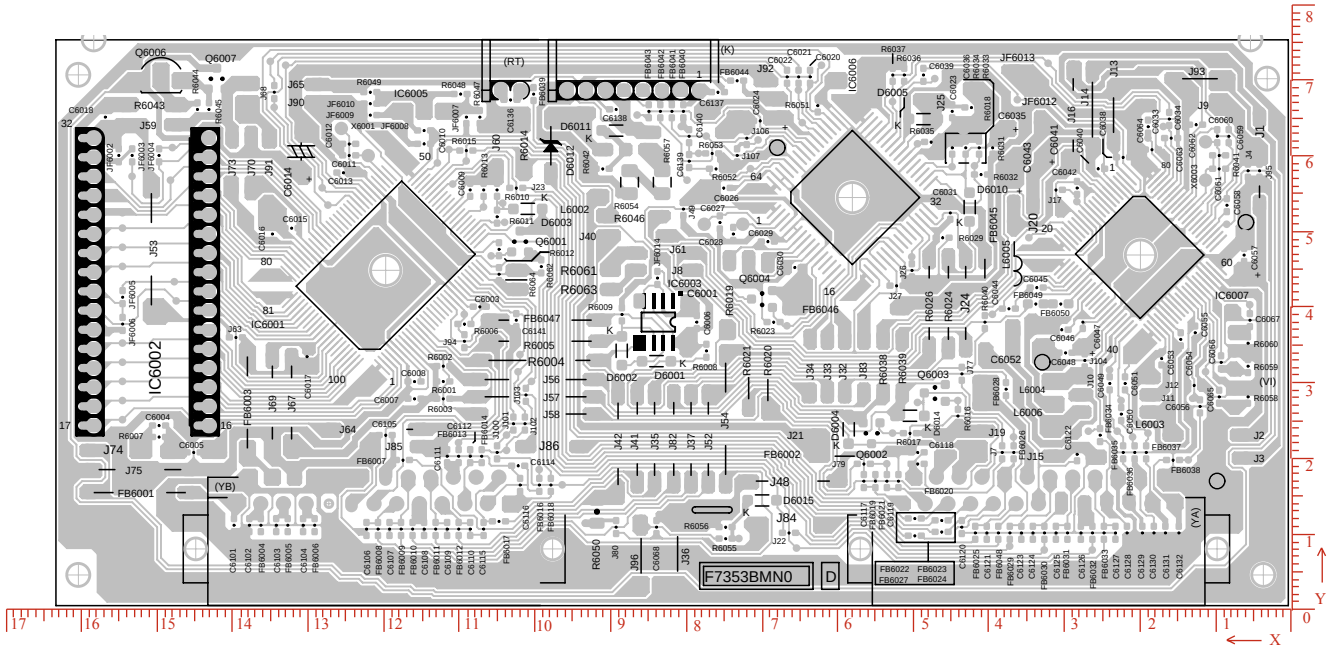
To return the receiver to the original Auto Installation mode, using the volume up or down button, set the Auto Installation On/Off to On. This setting is automatically stored and when the receiver is turned on the next time it will start up in Auto Installation mode.

PRINTED WIRING BOARDS

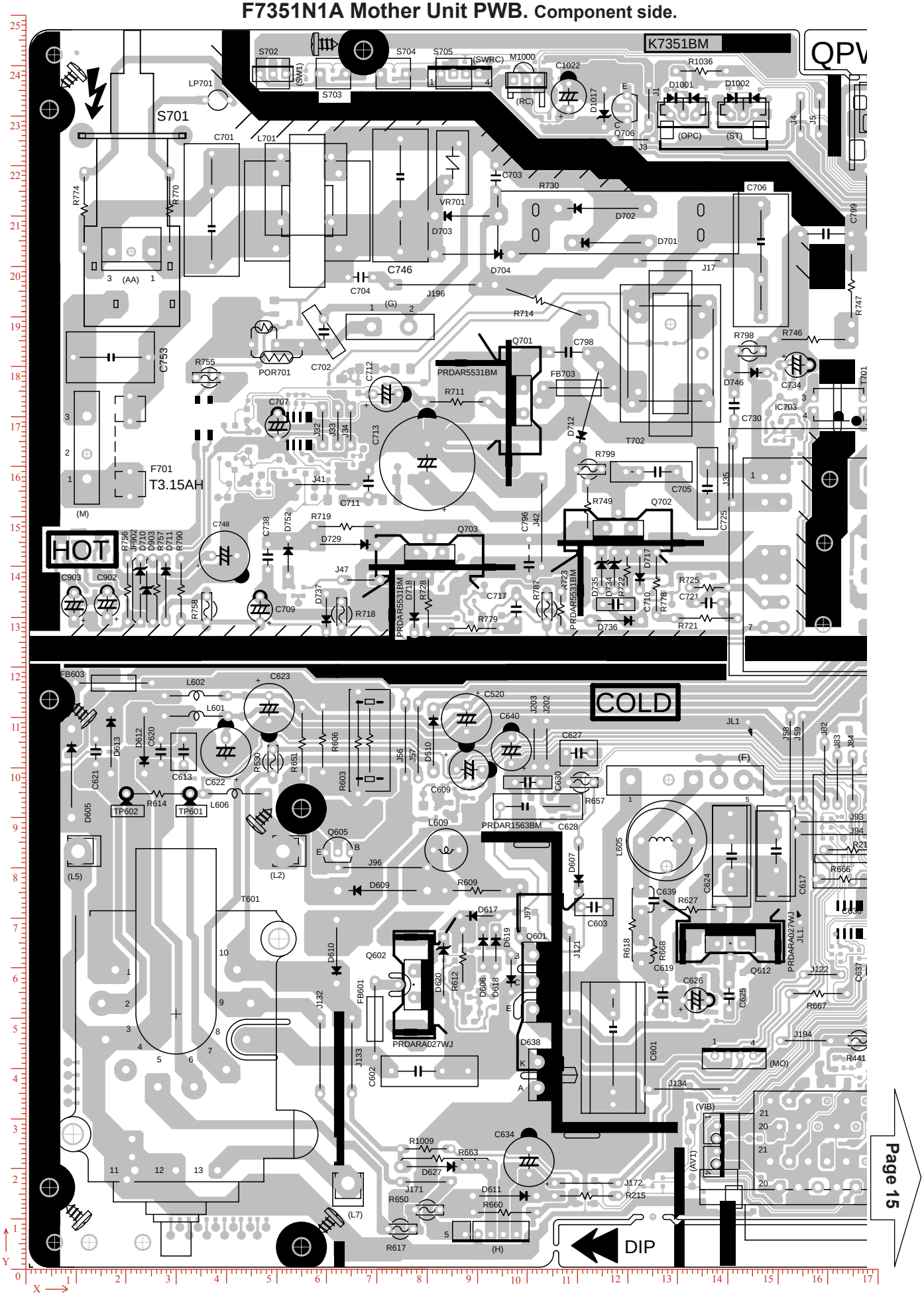
F7353N0D Digital Module Unit PWB
Component side



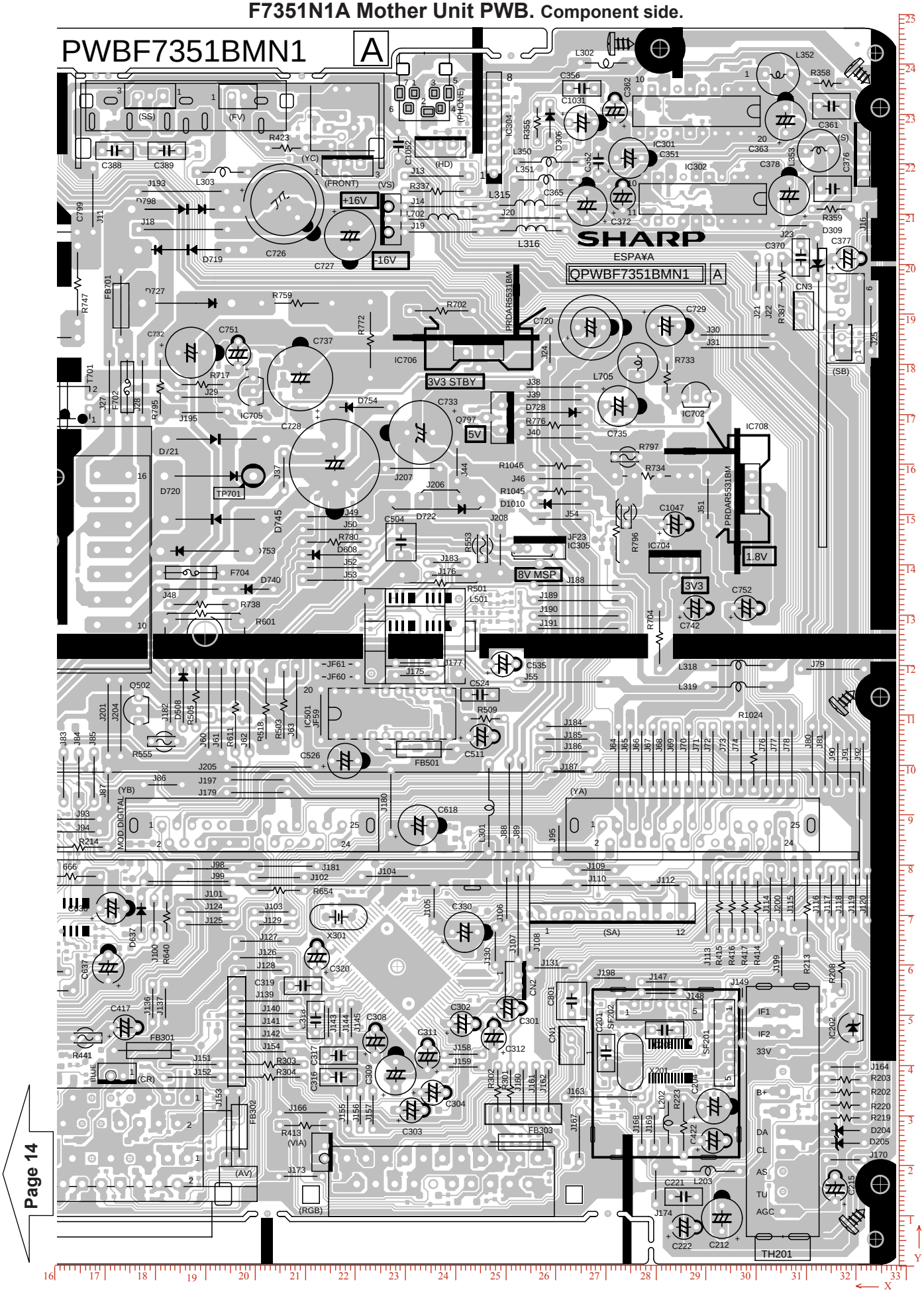
F7353N0D Digital Module Unit PWB
Copper side



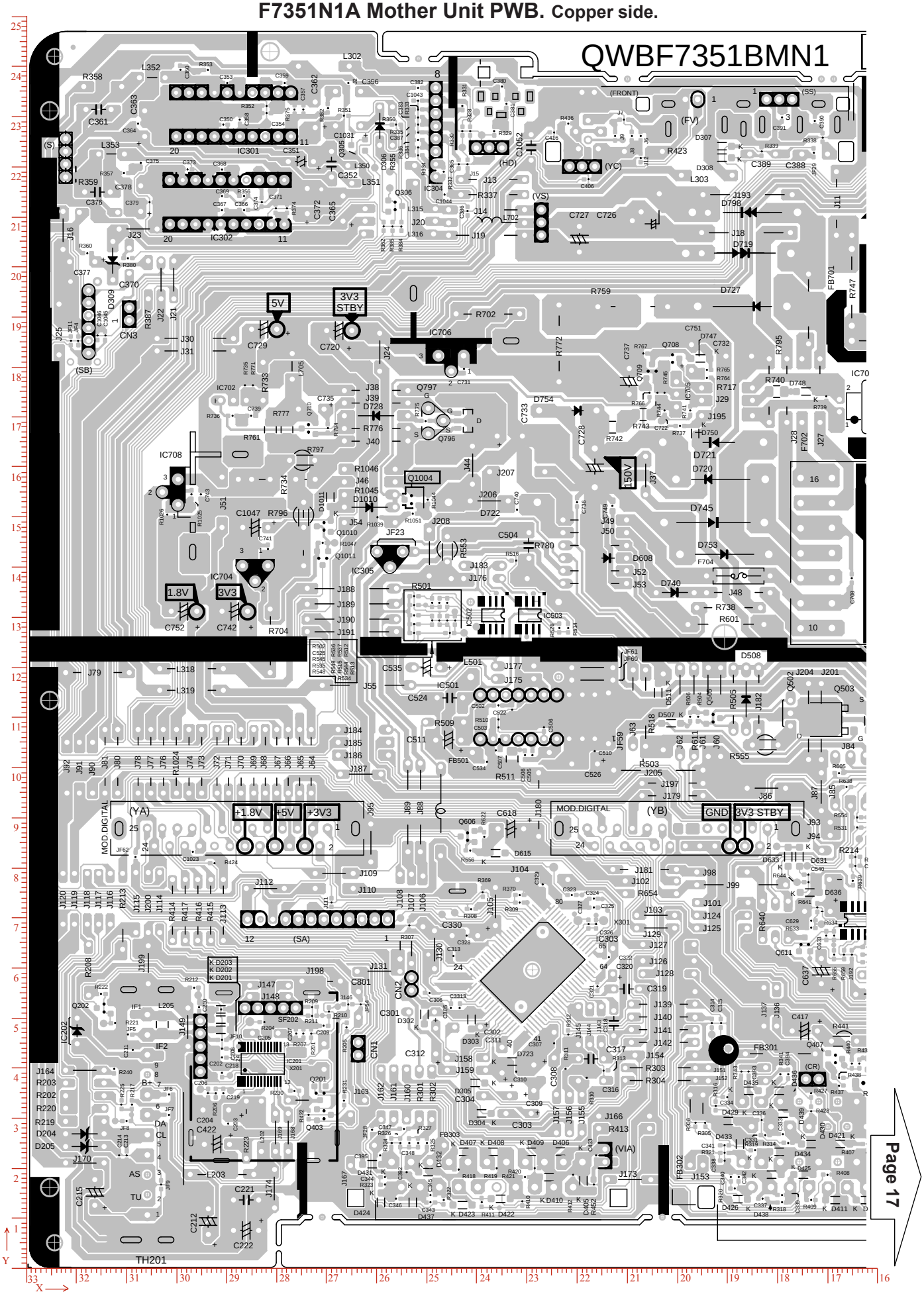
F7351N1A Mother Unit PWB. Component side.



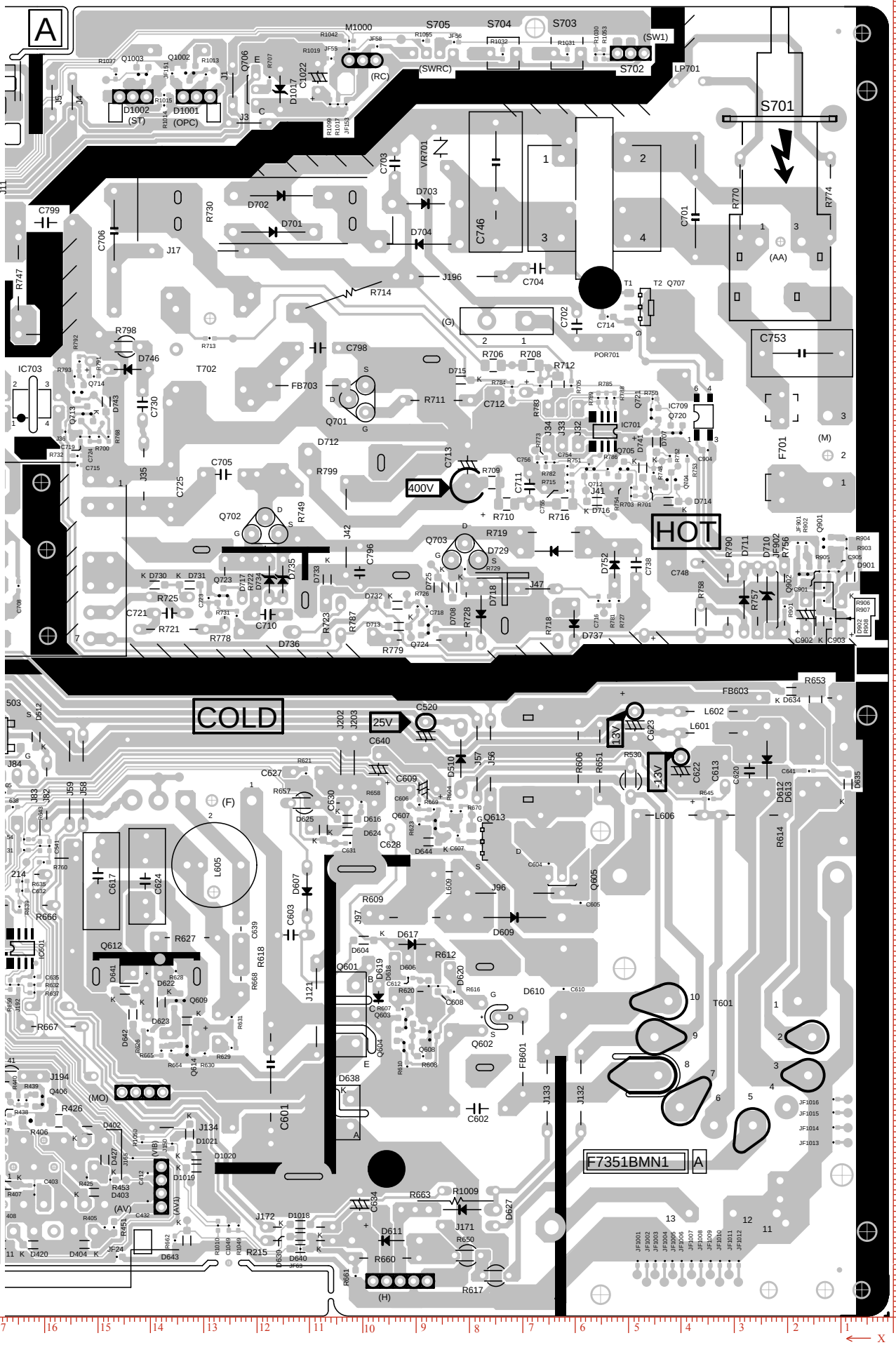
F7351N1A Mother Unit PWB. Component side.



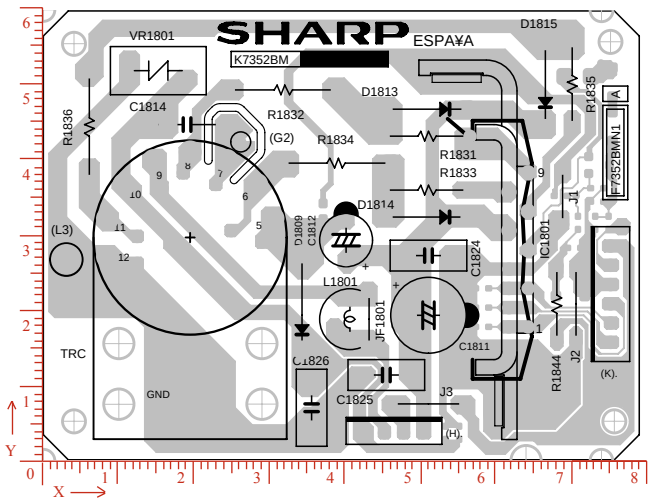
F7351N1A Mother Unit PWB. Copper side.



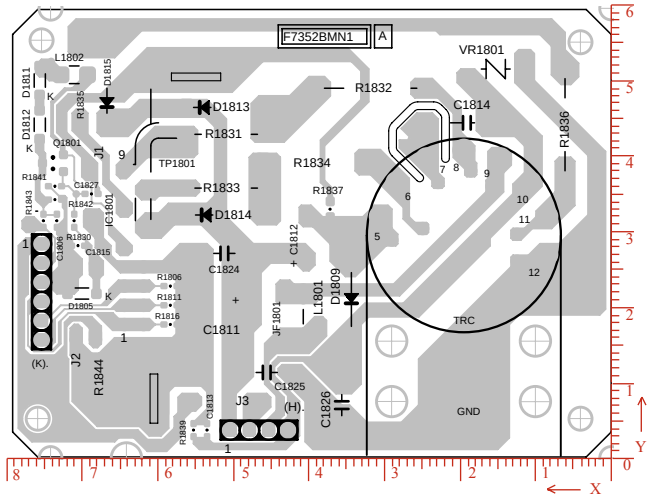
F7351N1A Mother Unit PWB. Copper side.



F7352N1A CRT Unit PWB
Component side



F7352N1A CRT Unit PWB
Copper side



COMPONENT LOCATION TABLES

F7353N0D Digital Module Unit PWB

Component side

Ref No	Xum	Yum
(K)	86614	68326
(RT)	102870	68326
(VI)	7112	32512
(YA)	33020	17018
(YB)	120904	17018
C6001	79502	37084
C6014	130555	60198
C6025	69850	64770
C6035	40386	63246
C6037	5842	46482
C6041	32765	61468
C6043	36322	56134
C6052	29464	34544
C6143	144780	20320
D6012	97536	60960
FB6001	151892	14986
FB6002	53848	19812
FB6003	137668	26924
FB6045	40132	39878
FB6046	58420	39370
FB6047	98298	37846
IC6001	119380	44450
IC6002	150368	42926
IC6005	114300	65531
J1	3810	58928
J10	22860	30226
J11	22860	27940
J13	23114	65024
J14	25908	65786
J15	36195	19812
J16	28448	65024
J19	35814	23114
J2	10668	22606
J20	33782	45212
J21	53848	22606
J24	42672	40132
J25	57912	67056
J3	15748	19558
J32	58674	31750
J33	60960	31750
J34	63246	31750
J35	83820	22098
J36	80772	6858
J37	78994	22098
J39	79502	62738
J40	85852	49022
J41	86106	22098
J42	88646	21463
J48	65531	16510
J52	76708	22098
J53	150368	47244
J54	74422	24765
J56	99568	29972
J57	99568	27686
J58	99568	25400
J59	150368	63754
J60	104648	61214
J61	82550	46736
J64	120650	23368
J65	133096	69088
J67	131826	26924
J69	134366	26924
J70	137160	58674
J73	139700	58674
J74	155067	20574
J75	151892	18034
J8	82550	44450
J82	81280	22098
J83	56134	31750
J84	65786	10668
J85	118110	21082
J86	97282	21082
J9	13716	66294
J90	133096	66802
J91	134874	57404
J92	64516	69596
J93	11684	69850
J96	85598	6604
JF6012	37338	68580
JF6013	45974	70866
JL1	5588	50800
JL1.	9398	16510
JL2	67564	60706
JL2.	32512	32258
L6001	85090	65277
L6002	84328	54356
L6003	22860	25654
L6004	35814	29718
L6005	36322	43434
L6006	35814	26670
Q6005	87630	60452
Q6006	149098	69596
R6004	99060	32512
R6005	98298	35052
R6014	101092	61214
R6019	73914	41148
R6020	68834	35814
R6021	71374	36068
R6024	44958	40132
R6026	47498	40132
R6038	53594	31750
R6039	51054	31750
R6043	150368	66294
R6046	86614	51562
R6061	95885	44450
R6063	95885	41910
REF1	5842	-3023
REF5	98552	50546
X6001	123444	61468
X6002	74676	50546
X6003	10922	58928

Copper side

Ref No	Xum	Yum
C6003	1E+05	39624
C6004	1E+05	23876
C6005	1E+05	20320
C6006	78232	37592
C6007	1E+05	27432
C6008	1E+05	29718
C6009	1E+05	55118
C6010	1E+05	61214
C6011	1E+05	59690
C6012	1E+05	61214
C6013	1E+05	57404
C6015	1E+05	50038
C6016	1E+05	49276
C6017	1E+05	33020
C6018	2E+05	64770
C6020	63246	70104
C6021	64770	70104
C6022	66294	70104
C6023	44450	65531
C6024	69850	64262
C6026	74676	55372
C6027	75184	50800
C6028	73406	49276
C6029	68834	48260
C6030	65277	44831
C6031	44704	52070
C6033	18542	63500
C6034	15748	64516
C6036	44450	60706
C6038	21844	59436
C6039	48260	70358
C6040	25146	57912
C6042	27940	55372
C6044	36957	39370
C6045	33274	42164
C6046	29972	36576
C6047	27178	37592
C6048	29464	33528
C6049	23622	29464
C6050	22098	25400
C6051	21590	29464
C6053	16764	32765
C6054	14224	35306
C6055	12319	36195
C6056	11684	26416
C6057	5842	46482
C6058	8128	53086
C6059	7874	62230
C6060	9398	62230
C6061	9144	57912
C6062	12192	63754
C6063	15494	61976
C6064	18034	60452
C6065	9144	27686
C6066	8890	32258
C6067	5080	37846
C6068	83566	10414
C6101	1E+05	10668
C6102	1E+05	10668
C6103	1E+05	10668
C6104	1E+05	10668
C6105	1E+05	22606
C6106	1E+05	10160
C6107	1E+05	10160
C6108	1E+05	10160
C6109	1E+05	10160
C6110	1E+05	10160
C6111	1E+05	19812
C6112	1E+05	19812
C6114	1E+05	18542
C6115	1E+05	10160
C6116	1E+05	16002
C6117	56134	16510
C6118	49022	20320
C6119	51562	16510
C6120	43180	10414
C6121	39878	9652
C6122	27940	20066
C6123	35306	9652
C6124	33782	9652
C6125	30734	9652
C6126	27432	9652
C6127	22860	9652
C6128	21336	9652
C6129	19304	9652
C6130	17780	9652
C6131	16256	9652
C6132	14478	9652
C6136	1E+05	67056
C6137	75438	68072
C6138	88900	65786
C6139	79248	58928
C6140	79248	62230
C6141	1E+05	37846
D6001	83566	32385
D6002	88138	33782
D6003	1E+05	52578
D6004	58166	23368
D6005	48260	64516
D6010	42164	52832
D6011	88900	62992
D6014	50038	25146
D6015	69596	13970
FB6004	1E+05	10668
FB6005	1E+05	10668
FB6006	1E+05	10668
FB6007	1E+05	19304
FB6008	1E+05	10160
FB6009	1E+05	10160
FB6010	1E+05	10160
FB6011	1E+05	10160
FB6012	1E+05	10160
FB6013	1E+05	19812
FB6014	1E+05	19812
FB6016	99060	16002
FB6017	1E+05	11176
FB6018	97536	16002
FB6019	54610	16510
FB6020	49022	18796
FB6021	53086	16510
FB6022	49403	11557
FB6023	45847	11303
FB6024	45847	9779
FB6025	41402	9652
FB6026	36322	20320
FB6027	49403	9271
FB6028	37338	28702
FB6029	36830	9652
FB6030	32258	9652
FB6031	29210	9652
FB6032	25908	9652
FB6033	24384	9652
FB6034	24892	22606
FB6035	21844	20320
FB6036	20320	20320
FB6037	18796	20320
FB6038	15240	19304
FB6039	99822	67818
FB6040	80010	65531
FB6041	81534	65531
FB6042	83058	65531
FB6043	84582	65531
FB6044	72898	69596
FB6048	38354	9652
FB6049	33401	40005
FB6050	30099	40005
IC6003	83312	37592
IC6006	57658	54102
IC6007	19558	46482
J100	1E+05	20320

F7351N1A Mother Unit PWB

Component side

Ref No	Xum	Yum	Ref No	Xum	Yum	Ref No	Xum	Yum	Ref No	Xum	Yum	Ref No	Xum	Yum	Ref No	Xum	Yum
(AA)	20320	202692	C317	215900	41656	C701	36322	207264	D510	80518	105156	FB302	196088	27432	J131	258318	59182
(AV)	166649	12496	C318	211328	48768	C702	58674	186690	D605	8382	98552	FB303	252222	24384	J132	57912	42164
(CR)	171704	37592	C319	208788	55626	C703	92964	217424	D606	90424	63754	FB501	231902	102870	J133	64262	42164
(F)	119888	97282	C320	211582	61214	C704	66040	197612	D607	109474	80010	FB601	68834	49530	J134	131063	35560
(FRONT)	216458	237998	C330	241046	66294	C705	125222	158750	D608	215138	141732	FB603	16764	116586	J136	178816	52070
(FV)	195834	233426	C351	273812	220980	C706	145796	204724	D609	70358	75184	FB701	172466	191516	J137	181356	52070
(G)	71882	187706	C352	267716	220472	C707	49530	167894	D610	61214	62992	FB703	109474	175514	J139	201422	52578
(H)	91948	6604	C356	264414	234950	C709	45974	131318	D611	94742	14224	IC202	318516	47244	J14	236728	211328
(HD)	236220	223774	C361	314198	231394	C710	116840	132334	D612	22860	104902	IC301	287274	230378	J140	201422	50038
(L2)	50546	83058	C362	271018	230378	C711	67564	156464	D613	16256	104902	IC302	288544	212852	J141	201422	47498
(L5)	9652	83058	C363	305054	228600	C712	71120	174244	D617	89662	70104	IC304	246888	226822	J142	201422	44958
(L7)	63500	16764	C365	265430	211582	C713	79248	160528	D618	92964	63754	IC305	256032	143002	J143	213868	48260
(M)	11430	162306	C370	308102	201168	C717	97028	131318	D619	96012	58674	IC501	226568	109982	J144	216154	48260
(MO)	140462	42164	C372	272542	213106	C720	266192	187198	D620	82550	59436	IC702	287274	173228	J145	218440	48260
(OPC)	130301	229997	C376	314452	214884	C721	135382	132588	D627	80264	20066	IC703	161290	172212	J147	280162	56388
(PHONE)	232994	241985	C377	317500	200914	C725	135128	155448	D637	176530	69342	IC704	282956	140208	J148	280162	54102
(RC)	99009	236855	C378	305816	213614	C726	204978	211836	D701	115824	204470	IC705	198882	174498	J149	296418	48006
(RGB).	236474	18542	C388	171196	222504	C727	218186	205486	D702	114300	211328	IC706	243840	184658	J151	186690	39878
(S)	320802	221742	C389	181610	222504	C728	215138	159766	D703	87122	209804	IC708	295910	154940	J152	186690	37338
(SA)	270510	69596	C417	173228	47244	C729	281178	187452	D704	88392	202184	J1	123444	232156	J153	193548	27432
(SB)	316230	188976	C422	290576	24638	C730	140462	171958	D710	22098	135128	J100	179070	69342	J154	201066	42418
(SS)	178308	233426	C504	228346	144272	C732	186436	182118	D711	27178	135128	J101	189611	72898	J155	217678	30734
(ST)	142290	229997	C511	244348	105410	C733	232156	166116	D712	109220	171958	J102	203962	77216	J156	220218	30734
(SW1)	48539	238201	C520	87122	109474	C734	152908	180086	D717	121666	138938	J103	202946	70358	J157	222758	30734
(SWRC)	85775	238201	C524	244094	113792	C735	271780	171450	D718	76708	132334	J104	225552	77470	J158	240792	41910
(VIA)	213106	22352	C526	217170	100584	C737	208280	177038	D719	184912	202692	J105	234950	72136	J159	240792	39370
(VIB)	136906	24384	C535	248666	119888	C738	47498	141732	D719A	186436	202692	J106	249428	73152	J16	321310	207264
(VS)	225806	208788	C601	116332	47498	C742	287020	131063	D720	189992	157480	J107	251714	69596	J160	252730	34544
(YC)	217678	219964	C602	77470	39116	C746	73914	217678	D721	191516	164846	J108	254000	70104	J161	255270	34544
BLIN1	281178	38100	C603	112522	71882	C748	38862	141986	D722	235458	152908	J109	267208	78740	J162	257810	34544
BLIN2	281178	38100	C609	87630	99314	C751	195834	181864	D727	185674	192024	J11	166878	212598	J163	268732	33401
C1022	107442	233680	C613	30734	102870	C752	297180	131063	D728	258826	170180	J110	267208	75692	J164	316992	39370
C1031	264414	228092	C617	148082	82042	C753	16256	181610	D729	62992	144272	J112	280924	75692	J166	209296	30226
C1047	282956	147828	C617A	148844	83058	C796	99568	140208	D734	116586	138938	J113	289306	71374	J167	263906	25400
C1052	227838	223774	C618	231902	87630	C798	107442	182626	D735	114046	138938	J114	302006	72898	J168	276352	26924
C201	269240	42164	C619	126238	54356	C799	158750	206248	D736	116840	129032	J115	306832	72898	J169	278892	26924
C204	290830	31496	C620	26162	102870	C801	262382	52578	D737	59182	130555	J116	311912	73660	J17	129794	200914
C205	280924	46736	C621	13208	102870	C902	15494	132334	D740	199136	134874	J117	314198	73660	J170	316992	20828
C212	292354	9144	C622	39116	102870	C903	8890	132080	D745	191262	148844	J118	316484	73660	J171	78994	17018
C215	314960	14986	C623	47752	111506	CN1	262382	43688	D746	143256	178562	J119	319024	73660	J172	110998	16764
C221	284734	13462	C624	139700	83058	CN2	251714	56642	D752	51562	141732	J120	321310	73660	J173	208280	17526
C222	284734	7366	C624A	139954	82042	CN3	308102	190500	D753	189230	142494	J121	107696	58166	J174	279146	15748
C301	249682	51054	C625	139446	54102	D1001	130301	229997	D754	220472	171196	J122	157988	58420	J175	231140	117602
C302	240538	48006	C626	132842	53340	D1002	142290	229997	D798	183642	210820	J124	189738	70358	J176	237490	137668
C303	230378	30734	C627	109474	102616	D1010	260096	151892	D798A	185166	210820	J125	189738	67818	J177	231140	120142
C304	234696	34290	C628	101346	91948	D1017	114554	231394	DOBLE_	29210	50546	J126	200406	61214	J179	199644	94234
C308	223266	44450	C630	99314	96774	D204	316992	26670	F1	55372	210820	J127	200406	64516	J18	184912	206756
C309	227330	37846	C634	99568	21082	D205	316992	24130	F701	20066	163830	J128	200406	58674	J180	226314	92456
C311	233680	41402	C636	170688	71120	D306	258064	228092	F702	173736	175260	J129	202946	67818	J181	205232	79502
C312	246888	45212	C637	169926	59182	D309	311404	201168	F704	186436	138176	J13	235458	217424	J182	182372	113538
C316	215900	37338	C640	96012	103124	D508	184912	113538	FB301	178054	42672	J130	247142	63500	J183	237490	140208

F7351N1A Mother Unit PWB

Component side

Ref No	Xum	Yum
J184	261365	107442
J185	261365	104902
J186	261365	102362
J187	261873	98552
J188	263652	135636
J189	263652	132588
J19	236728	206248
J190	263652	129540
J191	263652	127000
J193	184658	214376
J194	154686	45212
J195	188722	170180
J196	81026	196088
J197	199644	96774
J198	269748	57150
J199	304292	60452
J20	254000	209042
J200	304292	72898
J201	169926	109093
J202	103124	104394
J203	100584	104394
J204	172466	109093
J205	202438	99314
J206	236220	153162
J207	230632	159004
J208	248158	142748
J21	299212	197358
J22	301752	197358
J23	306324	207518
J24	258064	182880
J25	322072	187452
J27	170180	175260
J28	176784	175260
J29	188722	173228
J3	120396	225044
J30	294894	185674
J31	294894	183134
J32	58420	167894
J33	61468	167894
J34	64008	167894
J35	140208	158750
J37	204978	158242
J38	258826	175260
J39	258826	172720
J4	153670	229870
J40	258826	165100
J41	58420	156210
J42	102108	148590
J44	239522	160274
J46	260096	156972
J47	66040	137160
J48	186436	134874
J49	215138	149352
J5	157480	229870
J50	215138	146812
J51	289560	152908
J52	215138	139192
J53	215138	136652
J54	260096	148844
J55	260603	116332
J56	74930	105156
J57	77470	105156
J58	151638	101092
J59	154178	101092
J60	189992	110998
J61	192532	110998
J62	198120	110998
J63	207518	111760
J64	271780	101092
J65	274066	101092
J66	276352	101092
J67	278638	101092
J68	280924	101092
J69	283210	101092
J70	285750	101092
J71	288290	101092
J72	290576	101092
J73	293624	101092
J74	296164	101092
J76	301244	101092
J77	303784	101092
J78	306324	101092
J79	314452	118872
J80	310388	101092
J81	312928	101092
J82	158496	98552
J83	161036	97282
J84	164084	97282
J85	167132	97282
J86	180848	95758
J87	169926	94996
J88	249936	91948
J89	252476	91948
J90	315468	99822
J91	318008	99822
J92	320548	99822
J93	160528	88900
J94	160528	86360
J95	259842	84836
J96	70358	79756
J97	97790	70866
J98	189738	78994
J99	185928	76454
JF23	254762	143002
JF59	212344	109728
JF60	215646	117348
JF61	215646	119888
JF902	22098	133858
JL1	143256	108712
JL1.	153670	68834
L202	281686	28194
L203	289560	18542
L301	245872	91186
L302	269240	240030
L303	192786	218186
L315	254000	211582
L316	254254	206502
L318	295656	119634
L319	295656	115316
L350	257810	220218
L351	257302	216662
L352	303530	237744
L353	311658	222504
L501	231140	125476
L601	33274	109982
L602	33274	114046
L605	127000	85090
L605A	125730	85090
L606	40894	94488
L609	83058	83312
L701	55118	215138
L702	236728	208788
L705	275590	180086
LP701	37490	232943
M1000	98501	240461
MOD.DI	319786	75692
P1	74422	56388
P2	79756	144272
P3	98298	56896
P4	100076	172974
P5	117348	149352
P6	243840	180594
P7	139700	62738
P8	299974	154940
POR701	49276	184150
Q502	176022	110744
Q601	100330	56896
Q602	79502	56388
Q605	61468	82804
Q612	139700	67564
Q701	96012	172974
Q702	117348	145034
Q703	79756	140208
Q706	119126	231394
Q797	248412	169164
R1	67818	105156
R1009	78994	23622
R1024	298704	101092
R1036	133858	238760
R1045	260096	154432
R1046	260096	159512
R202	316992	34290
R203	316992	36830
R208	316230	59436
R213	309372	71120
R214	164084	83312
R215	110998	14224
R219	316992	29210
R220	316992	31750
R223	284734	27432
R301	250190	34544
R302	247650	34544
R303	202057	39878
R304	202057	37338
R337	235458	214376
R355	255524	228092
R358	313436	235966
R359	314198	210820
R387	304292	197358
R413	209296	27686
R414	299466	71374
R415	291846	71374
R416	294386	71374
R417	296926	71374
R423	205486	223012
R441	165354	45212
R501	236220	137668
R503	204978	111760
R505	187452	113538
R509	245110	108966
R518	201422	110998
R530	48514	100838
R553	244602	143510
R555	181102	104394
R601	188976	128524
R603	65531	104648
R606	58420	105410
R609	89154	75184
R611	195326	110998
R612	86360	61722
R614	25654	94488
R617	73914	7620
R618	121920	68326
R627	132080	71374
R640	181610	69342
R650	79248	11430
R651	54356	104648
R654	203962	74676
R657	109982	96774
R660	94742	10922
R666	162560	77470
R667	157226	54610
R7	273304	146558
R702	236474	190500
R704	279908	125222
R711	85090	172720
R714	92710	185928
R717	188722	175768
R718	62230	130301
R719	62992	147828
R721	134874	129540
R722	119126	138938
R723	105918	131063
R725	135382	135636
R728	79502	132334
R730	117348	208534
R733	281432	177038
R734	277368	157480
R738	188468	131826
R746	156210	185166
R747	163830	195834
R749	111252	151638
R755	35814	177546
R756	19558	135128
R757	24638	135128
R758	35306	131318
R759	207518	192024
R770	27940	211074
R772	222250	184658
R774	10922	211074
R776	258826	167640
R778	124968	136398
R779	88392	127508
R780	215138	144272
R787	103124	131318
R790	30226	135128
R795	180340	175260
R796	273304	150368
R797	273558	161290
R798	143510	182880
R799	111506	159258
REF10	53695	-4166
REF5	263398	203200
S701	20497	246888
S702	48514	238201
S703	60502	238201
S704	72517	238201
S705	84505	238201
SF201	293878	44196
SF202	279908	51816
T601	29210	50546
T701	159004	142748
T701A1	160274	140208
T702	127762	182372
T702B	127762	182372
TETON	189230	125984
TH201	304495	5486
VR701	84328	220472
X201	274066	40386
X301	215900	69342

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Copper side

Ref No	Xum	Yum
C1023	295402	83058
C1043	250444	233172
C1044	245110	214376
C1045	312928	186182
C1046	314452	186182
C1049	124206	17018
C202	289560	41910
C203	288290	28702
C206	292354	34798
C207	274828	46736
C208	289560	43688
C209	269240	48260
C210	294132	52070
C211	307340	43434
C213	308610	22352
C214	310134	22352
C218	289560	38862
C219	289306	34798
C305	243840	51816
C306	248158	54864
C307	223266	44704
C310	230886	39116
C313	243332	62230
C314	191770	48768
C315	189992	48768
C321	214630	56134
C322	212344	61976
C323	219710	74422
C324	215392	73660
C325	215392	71882
C326	214884	68580
C327	216408	68580
C328	240792	66294
C329	225552	76454
C331	181102	26416
C3313	242062	51816
C333	177546	26670
C334	188722	34036
C336	181864	29464
C337	181610	13716
C338	189230	21336
C339	177800	14478
C340	187960	18034
C341	189230	24384
C342	186436	18034
C343	247904	12954
C344	257048	18034
C345	247904	14478
C346	254762	13716
C347	253238	27686
C348	252222	24892
C350	289306	228346
C353	288544	236728
C354	280670	230632
C357	273304	231394
C358	286004	229362
C359	277114	236728
C360	297942	239268
C364	306324	228600
C366	285242	211328
C367	289560	211328
C368	289560	219456
C369	289560	214122
C371	278892	211582
C373	296418	219456
C374	281686	212852
C375	305816	220726
C379	304038	212852
C380	233680	235966
C381	232791	232537
C382	250444	235712
C383	250444	229870
C384	250444	223774
C385	242316	220472
C386	240538	211074
C387	250444	226822
C390	171196	229108
C391	177800	229870
C392	252730	19050
C393	184404	39116
C394	176530	38608
C395	258064	22352
C403	160782	24638
C406	216408	217424
C412	139446	26924
C416	223266	226822
C432	139446	21590
C433	214884	22352
C502	234442	112268
C503	234442	107950
C505	227584	102362
C506	225298	107950
C507	234950	103378
C508	229108	102362
C510	215138	103124
C522	231648	111506
C525	251206	132334
C534	236728	101092
C540	172466	78486
C541	157988	88646
C604	64008	85344
C605	57912	77978
C606	88392	96520
C607	81026	90678
C608	84836	62230
C610	61214	61722
C612	90424	63754
C629	171958	69342
C631	101346	89154
C632	163068	80264
C633	168910	66294
C635	160782	64008
C641	14986	102870
C708	163830	137668
C714	52832	188468
C715	152654	160528
C716	54610	134874
C718	86868	133858
C719	152146	165862
C722	201168	171196
C723	128016	135382
C724	150368	165862
C731	241300	179578
C736	218694	152908
C739	283718	170180
C740	230632	151384
C741	280416	143510
C743	293878	154432
C749	211582	152146
C754	62992	161036
C755	60452	155702
C756	66040	161036
C901	12954	140462
C904	34036	163322
C905	9398	140462
D1011	267970	153924
D1018	110744	17272
D1019	130301	27940
D1020	130301	30226
D1021	131572	34290
D201	289814	47498
D202	289814	49530
D203	289814	51562
D302	249174	50546
D303	239776	49530
D304	237744	30734
D305	239014	36830
D307	189738	224028
D308	189738	221742
D402	150876	35052
D403	149606	23368
D404	151384	13462
D405	217424	17272
D406	221996	23114
D407	241300	23114
D408	235458	23114
D409	227838	23114
D410	224282	18034
D411	167132	13462
D420	161036	13462
D421	166116	24638
D422	233934	13716
D423	241554	12446
D424	257810	12954
D425	173482	18542
D426	186563	13589
D427	147574	29464
D429	188468	29210
D430	171958	24638
D431	259588	20574
D432	248412	19050
D433	186182	24638
D434	178308	23114
D435	184404	35306
D436	178308	35306
D437	251460	12954
D438	179832	18542
D439	177546	30734
D507	199898	108712
D511	202438	114808
D512	160528	109220
D604	98806	70866
D615	234950	82804
D616	101854	93726
D622	136906	59182
D623	132080	55626
D624	101854	91440
D625	106426	91694
D631	174244	82042
D633	176530	82042
D634	18288	117856
D635	7620	100330
D636	172212	74930
D639	110744	14986
D640	110744	12700
D641	143764	61468
D642	142240	56896
D643	132080	14224
D644	86614	89408
D707	43688	164846
D708	82042	137414
D713	92202	130048
D714	41402	153670
D715	80518	176530
D716	54864	153670
D723	231648	41148
D725	84836	137414
D730	138176	137922
D731	131572	137922
D732	92456	134112
D733	105664	138938
D741	46228	160020
D743	147320	172466
D747	194056	181610
D748	172974	175006
D750	195072	166624
D901	7112	139446
D902	12954	131063
IC201	281432	40640
IC303	227584	59436
IC502	235458	130301
IC503	228092	130301
IC601	163068	69342
IC701	53340	166878
IC709	34798	169672
J111	267716	72898
J12	205994	221742
J146	264414	52578
J15	240538	220472
J150	134874	32512
J165	142240	29718
J192	163830	62484
J2	264414	236728
J36	154940	166878
J6	205994	226060
J7	209296	229362
J8	207772	226060
J9	211074	226060
JF10	289560	45466
JF1001	47244	10414
JF1002	45466	10414
JF1003	43942	10414
JF1004	42164	10414
JF1005	40640	10414
JF1006	38862	10414
JF1007	37084	10414
JF1008	35306	10414
JF1009	33528	10414
JF1010	31750	10414
JF1011	29972	10414
JF1012	28194	10414
JF1013	10414	32765
JF1014	10414	35560
JF1015	10414	38354
JF1016	10414	40894
JF11	319786	185166
JF151	134874	234442
JF153	102108	228600
JF22	289814	51562
JF24	145288	11176
JF28	259588	27432
JF29	171450	222758
JF4	318262	185166
JF5	308356	46482
JF54	261873	52578
JF55	101600	239014
JF56	81788	240284
JF58	96266	239522
JF6	300228	34544
JF62	306832	82042
JF63	110744	12700
JF7	300228	30480
JF8	308610	29210
JF9	301752	16510
JF901	17018	145796
L205	301498	48514
Q1002	131597	234442
Q1003	140462	234188
Q1004	251714	153416
Q1010	269240	148082
Q1011	269494	141732
Q201	270002	34798
Q202	313182	51816
Q305	262382	224282
Q306	255016	212090
Q403	269240	30480
Q406	159258	40640
Q407	167132	41656
Q503	168148	109474
Q505	191516	109728
Q603	90932	55118
Q604	91186	50800
Q606	240538	86106
Q607	85344	92710
Q608	86360	52832
Q609	133350	59436
Q611	173228	64516
Q613	75438	89408
Q614	132080	50038
Q704	40894	157734
Q705	49784	159766
Q707	45720	190246
Q708	199644	181610
Q709	203708	179070
Q710	272288	167640
Q712	56134	159766

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Copper side

Ref No	Xum	Yum
Q713	150876	170180
Q714	152654	174244
Q720	39878	166624
Q721	44704	170180
Q723	125222	135890
Q724	86614	129540
Q796	240792	169164
Q901	12192	145796
Q902	16002	139954
R1010	126238	17018
R1013	128524	234188
R1014	136398	228346
R1015	136398	230378
R1017	103632	228600
R1019	104902	237236
R1025	295656	154432
R1026	300482	150368
R1030	55118	237998
R1031	60452	237998
R1032	72644	237998
R1037	145542	234188
R1039	258572	149860
R1042	101600	240538
R1044	248412	153416
R1047	269494	144780
R1049	122428	17018
R1050	140462	32765
R1051	251460	150622
R1053	53594	237998
R1055	87630	240538
R1099	105156	228600
R201	271780	46736
R204	281178	49022
R205	264668	48006
R206	290830	34798
R207	273304	46736
R209	271526	52070
R210	268224	51054
R211	271526	50292
R212	295148	55880
R217	307594	32512
R221	310896	48768
R222	313690	54610
R225	309626	32512
R230	275082	35306
R231	265176	33274
R240	311150	39624
R305	193040	28956
R306	195072	28956
R307	252222	68326
R308	239776	71628
R309	230124	72898
R310	216662	37846
R311	220980	39624
R312	220472	46482
R313	213360	39370
R314	176530	24892
R316	191008	32258
R318	177800	12954
R319	183134	23368
R320	187198	15748
R321	189230	22860
R322	245364	13462
R323	257048	16510
R324	255778	24892
R325	248666	24892
R326	254000	24892
R327	250444	24892
R328	240030	227076
R329	235204	227076
R330	241554	227076
R331	241554	232156
R332	245364	218948
R333	250444	231394
R334	250444	222250
R335	250444	228346
R336	250444	225298
R338	169672	225806
R339	181864	223012
R341	178054	38608
R343	185928	39116
R350	254762	228346
R351	265176	230124
R352	280670	232156
R353	292354	239268
R356	285242	214122
R357	309118	218694
R360	316484	202692
R362	257302	208026
R369	237490	74930
R370	230124	74422
R374	276606	211582
R375	275082	231394
R380	308356	201676
R382	268478	231648
R384	253746	208026
R385	255524	208026
R405	147574	16764
R406	161544	36830
R407	160782	22860
R408	168656	18542
R409	171958	13462
R410	229616	13208
R411	237744	12954
R412	219456	18542
R418	242316	19558
R419	234696	19812
R420	227126	19812
R421	229108	18034
R422	272288	30480
R424	291084	80772
R425	150876	26162
R426	156210	36830
R427	171958	34798
R428	171958	31242
R436	220472	228600
R437	166370	37846
R438	166370	36322
R439	162306	40640
R440	163830	40640
R451	145796	16764
R452	215392	16510
R453	146558	25654
R502	251206	134112
R504	194564	109982
R506	196088	109982
R510	234442	109474
R511	231648	101600
R512	244602	132842
R513	243078	129286
R514	220472	127762
R515	246126	129286
R516	230886	141224
R526	222250	127762
R531	162814	87884
R534	244094	126746
R535	251206	128524
R536	247650	132842
R537	246126	132842
R544	244602	129286
R545	251206	130301
R548	251206	126746
R549	247650	129286
R554	162814	89916
R604	82296	95250
R605	166370	98806
R607	91440	57912
R608	87630	49022
R610	90678	46990
R616	81788	61214
R620	86614	62230
R621	109728	102362
R622	237236	86106
R623	88392	92710
R626	139446	53848
R628	134112	65024
R629	123698	50546
R630	128778	49530
R631	123698	56388
R632	160782	62484
R633	171958	67818
R634	167386	66294
R635	163068	82042
R637	160782	60960
R638	164846	96012
R639	163576	77216
R641	170688	71882
R643	159766	88646
R644	172466	76962
R645	33782	97536
R653	13716	116332
R655	167386	62484
R656	240030	83312
R658	99314	97028
R659	165354	62484
R661	100330	7620
R662	134366	14224
R664	135128	50038
R665	136906	50038
R669	85598	95504
R670	80518	95250
R700	148590	165862
R701	44704	156210
R703	48514	154686
R705	59690	175514
R706	74422	179324
R707	116586	233680
R708	67310	179324
R709	74676	157226
R710	71882	153162
R712	62230	175768
R713	127762	184404
R715	60452	157226
R716	60960	153162
R726	88646	133858
R727	50800	134874
R729	79756	140970
R731	122682	132080
R732	152654	162306
R735	284988	176276
R736	287528	170180
R737	198120	168148
R739	168910	173990
R740	178816	175006
R741	196088	171196
R742	211582	167894
R743	205486	170434
R744	202692	174752
R745	201168	174752
R748	44196	159004
R750	44450	172974
R751	60452	160274
R752	41148	162306
R753	37846	162306
R754	48514	156210
R760	159004	85598
R761	279908	167386
R764	192786	177800
R765	192786	179324
R766	204216	174752
R767	205486	182626
R768	146812	165862
R771	283464	176276
R773	64516	161036
R775	248920	169164
R777	276606	167386
R781	52578	134874
R782	60452	158750
R783	65531	175514
R784	70866	175260
R785	53086	173228
R786	52832	159766
R788	51562	173228
R789	54610	173228
R791	149606	177292
R792	152400	180086
R793	153162	177292
R794	268478	167640
R901	19558	133858
R902	15494	145796
R903	7874	144780
R904	7874	146558
R905	11176	140462
R906	12192	137414
R907	12192	134874
R908	10922	131572

F7352N1A CRT Unit PWB

Component side

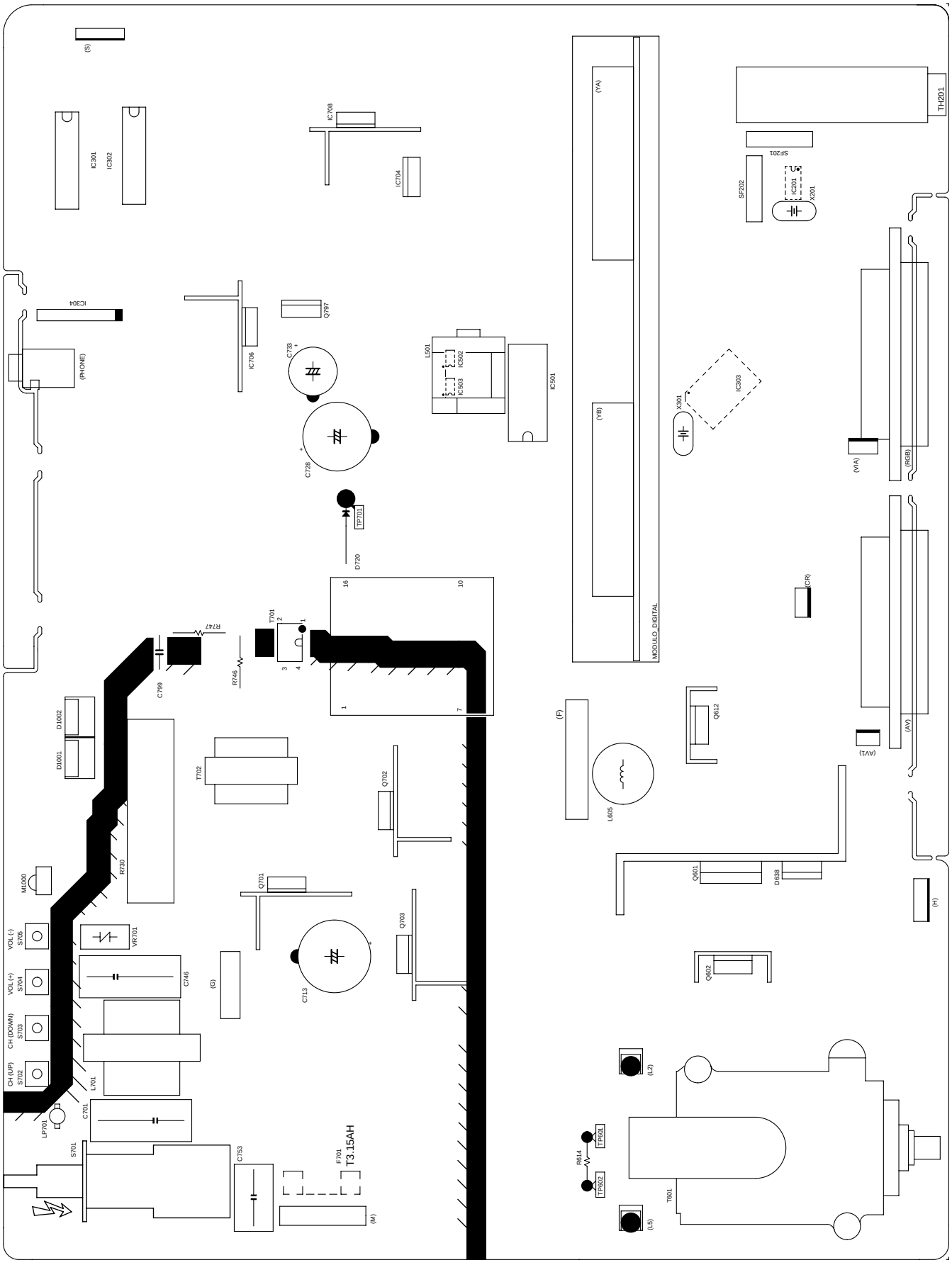
Ref No	Xum	Yum
C1806	73152	31242
C1813	53340	3556
C1815	70358	27940
C1827	68580	34798
D1805	69850	21590
D1811	75438	49784
D1812	75438	43942
L1802	70866	50546
Q1801	73660	38862
R1806	58166	22606
R1811	58166	20066
R1816	58166	17526
R1830	70866	31242
R1837	37084	32765
R1839	55118	3556
R1841	73406	35814
R1842	73406	34036
R1843	74930	31242

Copper side

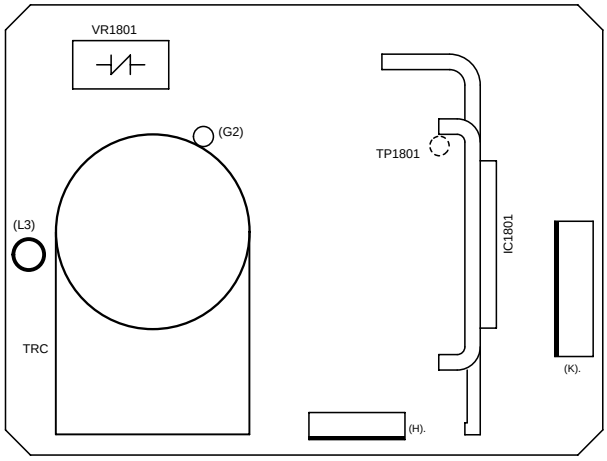
Ref No	Xum	Yum
(G2)	26162	41910
(H).	46482	3556
(K).	75184	21844
(L3)	3048	26416
C1811	51054	19050
C1812	40132	28956
C1814	19050	44196
C1824	51054	26924
C1825	45466	11176
C1826	35560	6858
D1809	34290	20828
D1813	50800	46228
D1814	50800	32004
D1815	66548	49530
IC1801	62992	27686
J1	68834	34798
J2	70612	20574
J3	51054	7366
JF1801	43180	18542
KK2	31750	48768
KK3	38862	39370
KK4	6096	43942
L1801	40640	18542
PINZA1	63500	27686
R1831	50800	42672
R1832	31750	48768
R1833	50800	35560
R1834	38862	39116
R1835	70104	49530
R1836	6096	43942
R1844	68072	20574
REF2	22860	54610
REF8	0	-127
REF9	73990	-127
TRC	19456	29311
VR1801	15240	51308

CHASSIS LAYOUT

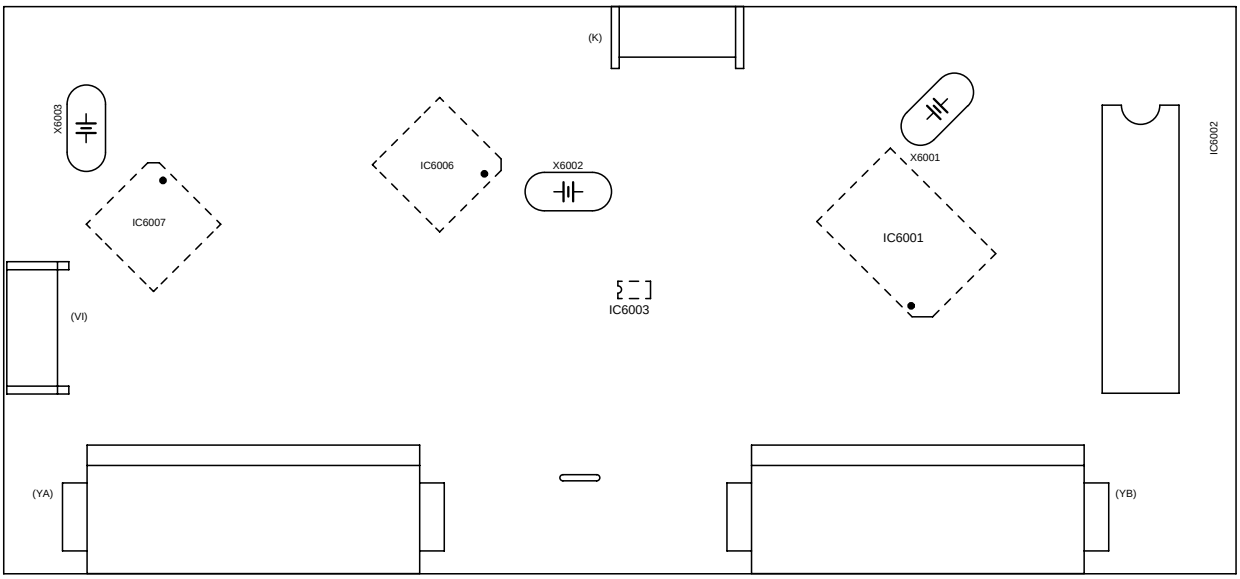
PWB A- Mother Unit, F7351N1



PWB B- CRT Socker Unit, F7352N1A



PWB C- Digital Module Unit, F7353N0D



SCHEMATIC DIAGRAMS

Description:

SAFETY NOTE:
1. DISCONNECT THE AC PLUG FROM THE AC OUTLET BEFORE REPLACING PARTS.

2. SEMICONDUCTOR HEAT SINKS SHOULD BE REGARDED AS POTENTIAL SHOCK HAZARDS WHEN THE CHASSIS IS OPERATING.

NOTE:
1. The unit of resistance « ohm »is omitted (K=1000 ohms. M= Megaohm).
2. All resistors are 1/8 watt. unless otherwise noted.
3. All capacitors are μF, unless otherwise noted (P= μμF).

IMPORTANT SAFETY NOTE:

PARTS MARKED WITH « ⚠ » ( ) ARE IMPORTANT FOR MAINTAINING THE SAFETY OF THE SET. BE SURE TO REPLACE THESE PARTS WITH SPECIFIED ONES FOR MAINTAINING THE SAFETY AND PERFORMANCE OF THE SET.

SERVICE PRECAUTION:

THE AREA ENCLOSED BY THIS LINE (–•–•–) IS DIRECTLY CONNECTED WITH AC MAINS VOLTAGE. WHEN SERVICING THE AREA, CONNECT AN ISOLATING TRANSFORMER BETWEEN TV RECEIVER AND AC LINE TO ELIMINATE HAZARD OF ELECTRIC SHOCK.

CAUTION
This circuit diagram is original one, therefore there may be slight difference from yours.

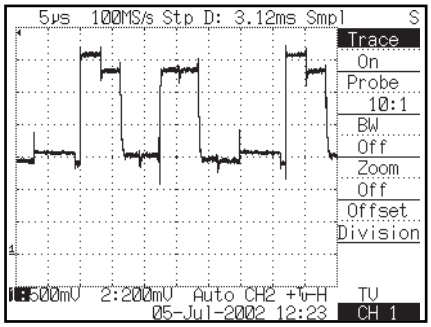
Waveform Measurement Condition

1. Test Equipment: Digital Oscilloscope; Colour TV Pattern Generator

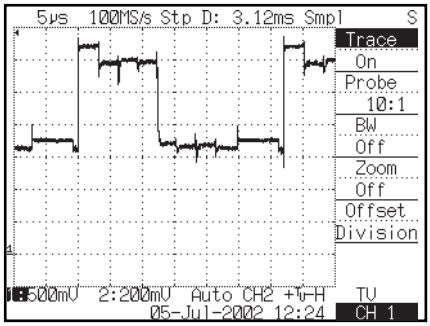
2. Test Conditions: CH-12; Colour Bars; 70dB From RF Input

3. TV Condition: Picture and Audio : Settings → Factory Presets (Only in Audio Measures: Max. Volume With Unplugged Speakers)

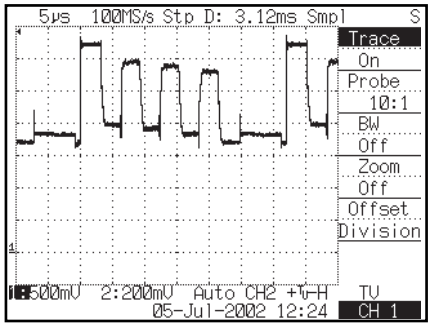
Waveforms



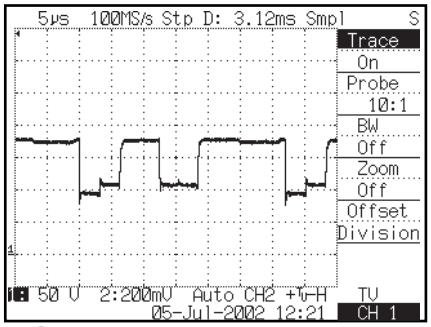
(1) Red In



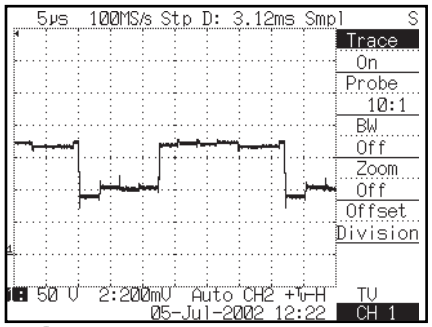
(2) Green In



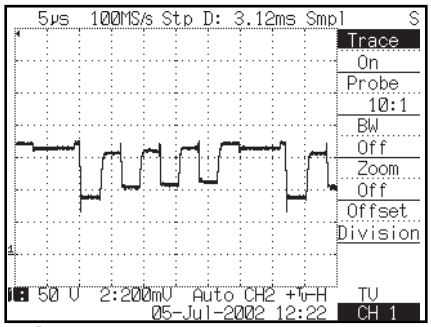
(3) Blue In



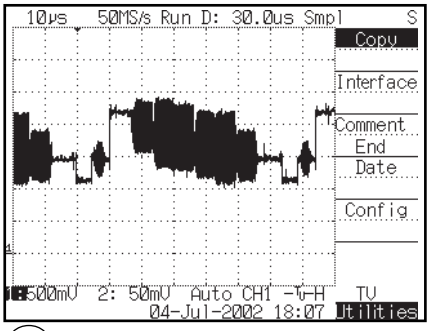
(4) Red Output



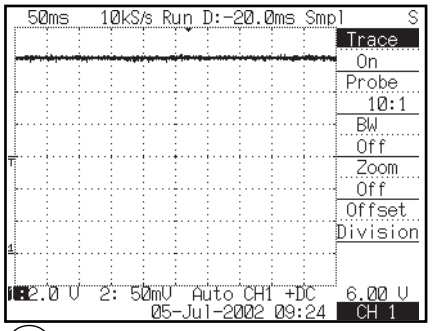
(5) Green Output



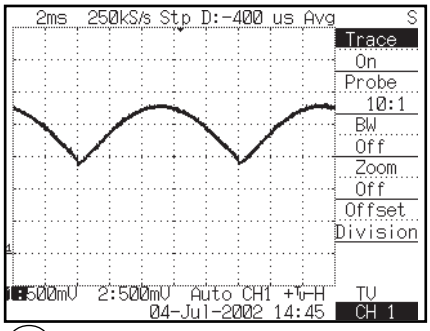
(6) Blue Output



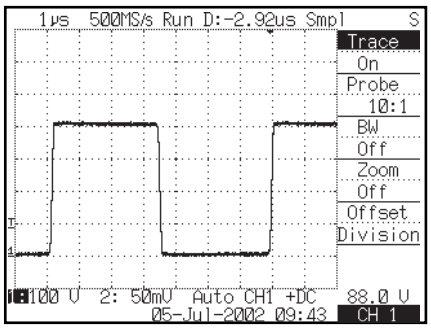
(7) Video Output



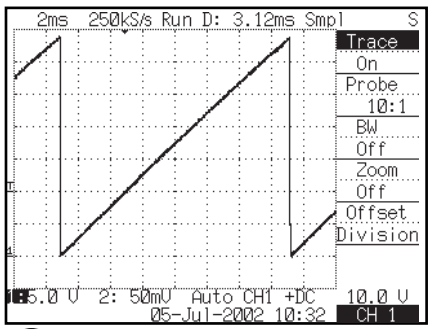
(8) +12V



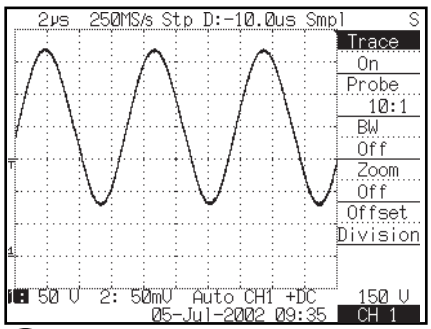
(9) E-W Output



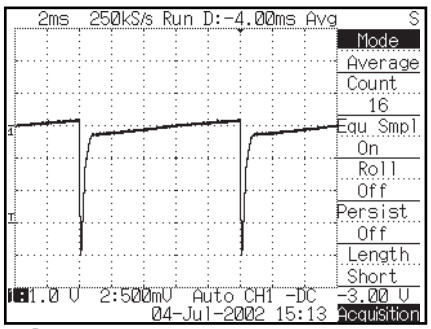
(10) V Switch



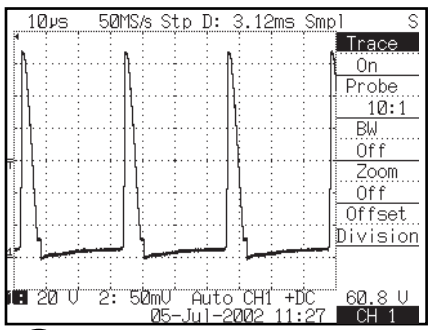
(11) V Control St-By



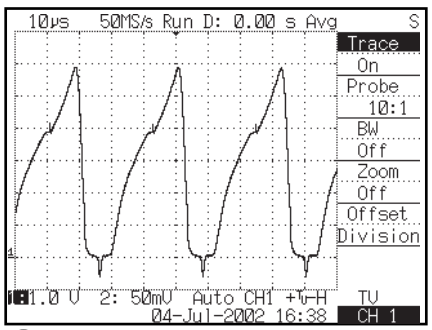
(12) Vp (Primary)



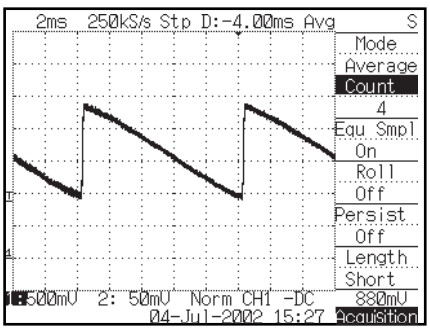
(13) Vertical Input



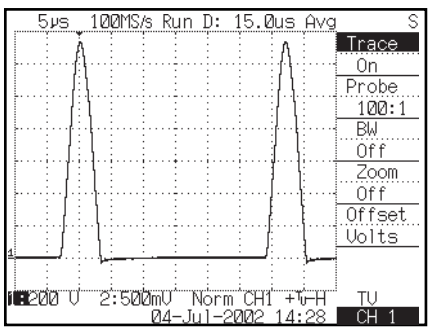
(14) E-W Control 2



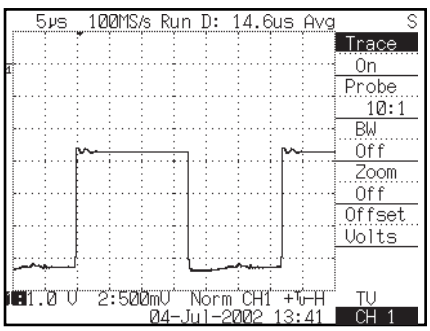
(15) Inner Correction



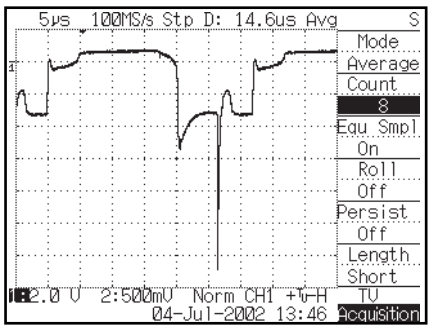
(16) Vertical+Input



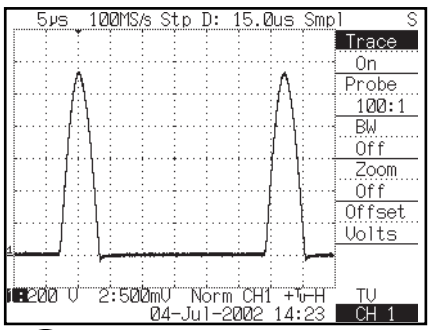
(17) VH



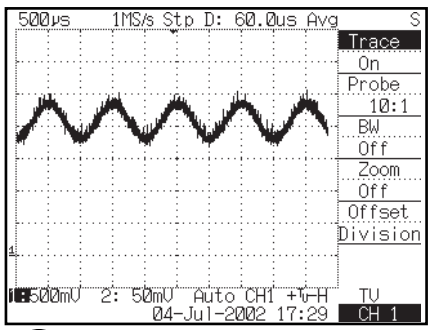
(18) H Control



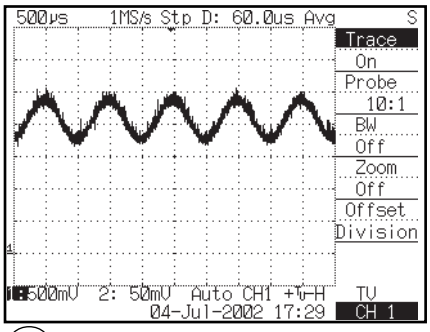
(19) Vb (Horizontal)



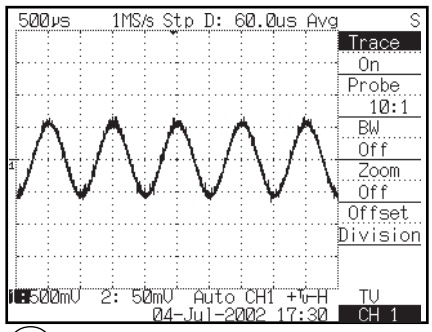
(20) Vc (Horizontal)



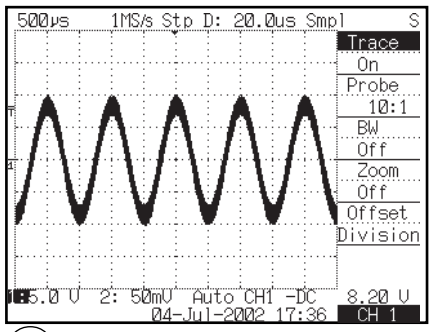
(21) Headphone L Input



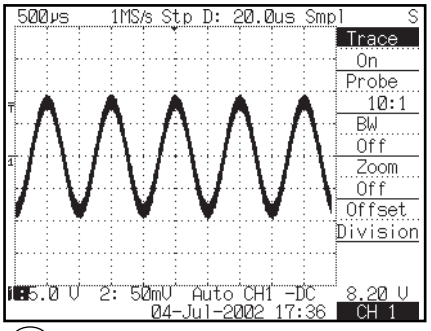
(22) Headphone R Input



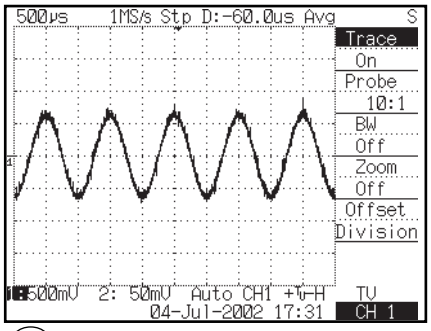
(23) Speaker L Input



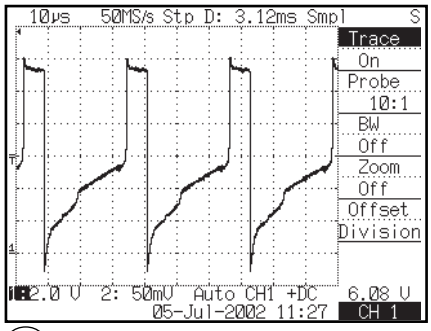
(24) Speaker L Output



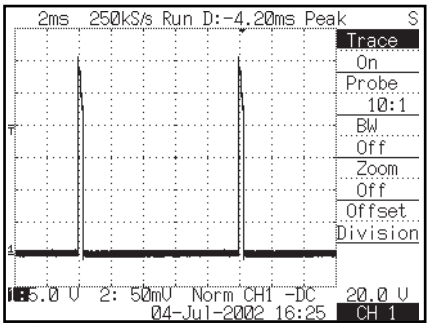
(25) Speaker R Output



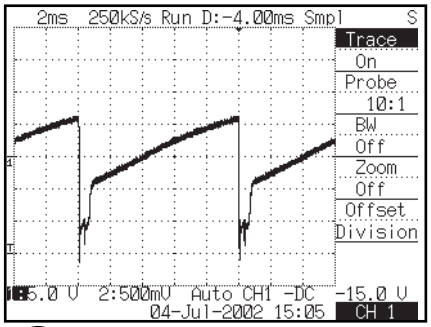
(26) Speaker R Input



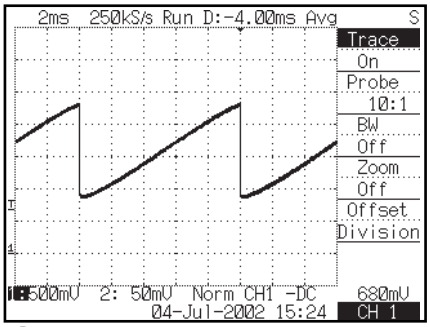
(27) E-W Control 1



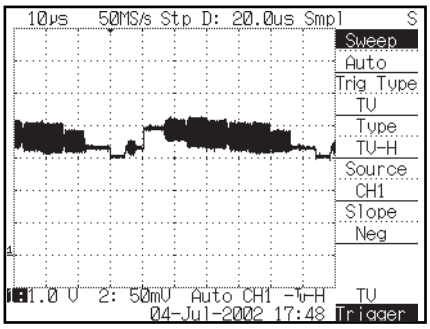
(28) V Flyback Vertical



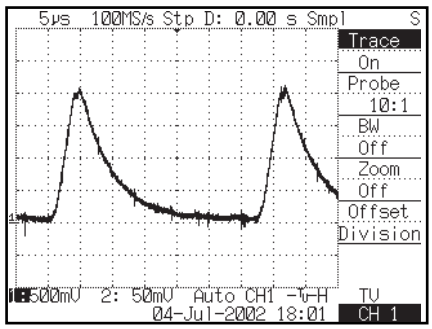
(29) Vertical Output



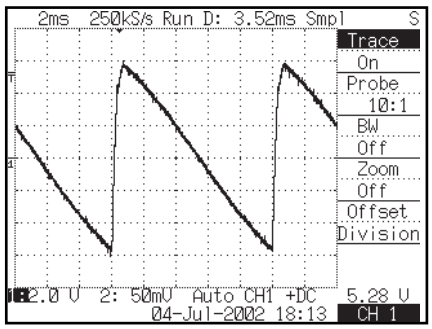
(30) Vertical - Input



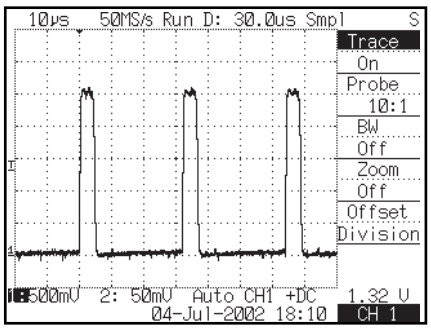
(31) IF Video Output



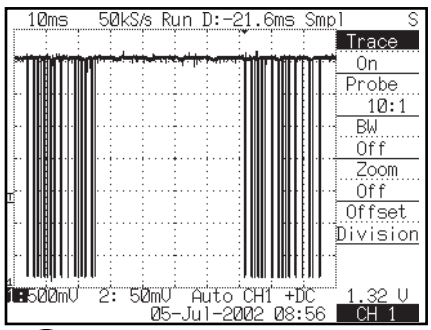
(32) H Protection



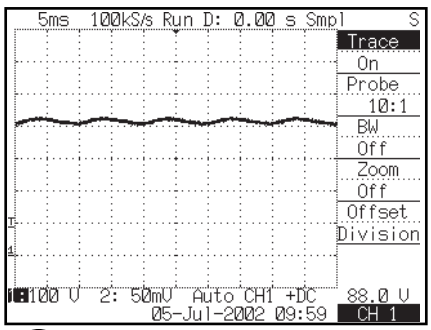
(33) V Protection



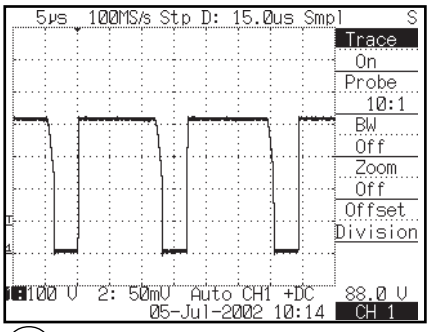
(34) H Flyback Pulse



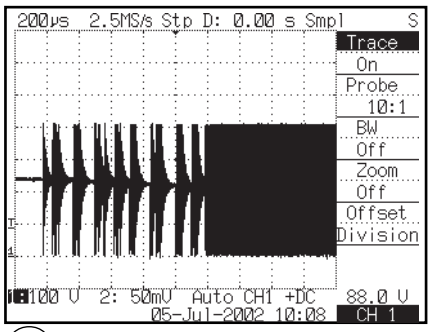
(35) R/C Pulses



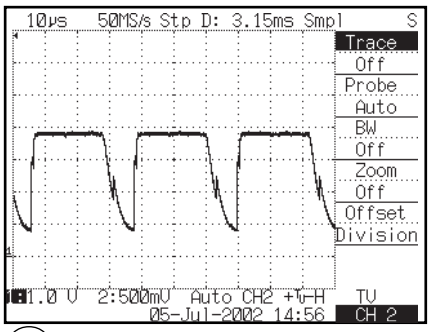
(36) +400V (Power Supply Voltage)



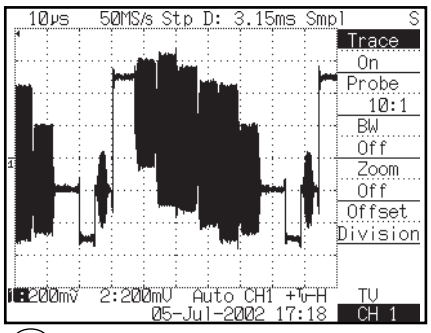
(37) Power Supply Switch Voltage 1



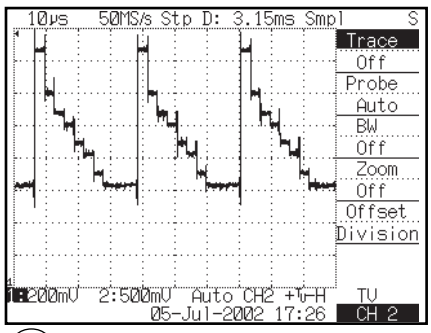
(38) Power Supply Switch Voltage 2



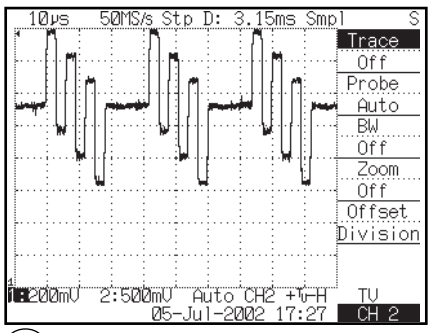
(39) I Sense CRT



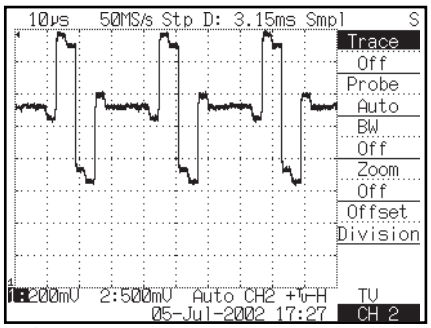
(40) IF Video In



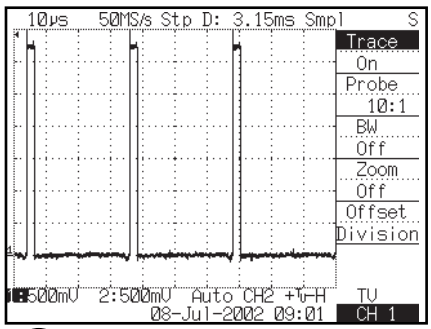
(41) Analog Y Out



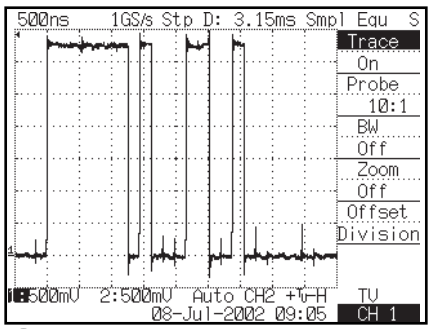
(42) Analog U Out



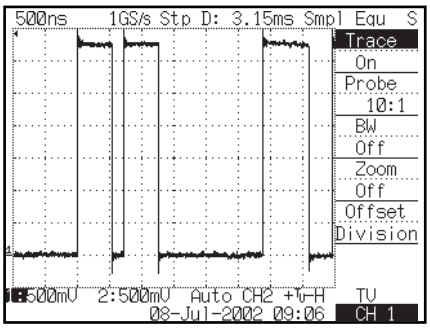
(43) Analog V Out



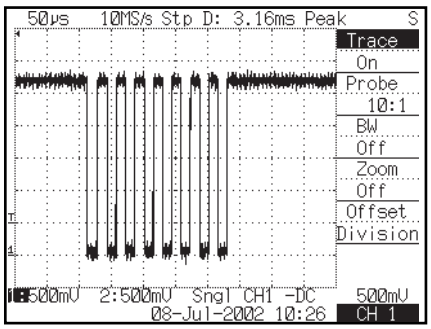
(44) OSD Blanking



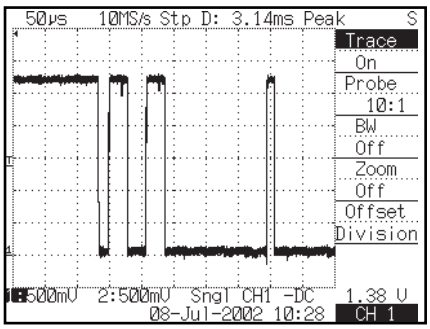
(45) EPROM Data D3



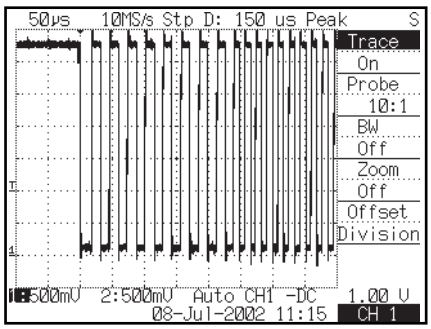
(46) EPROM Address A3



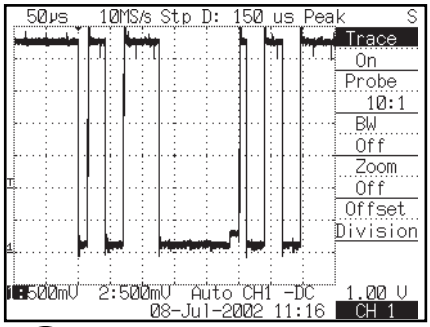
(47) SCL0



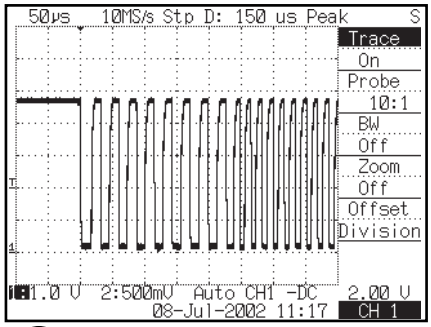
(48) SDA0



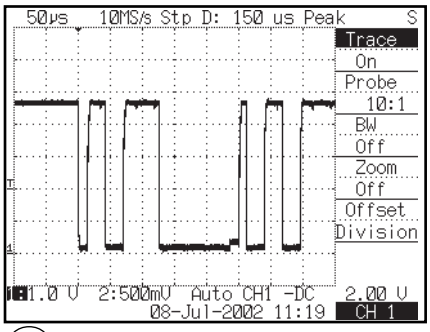
49 SCL 33



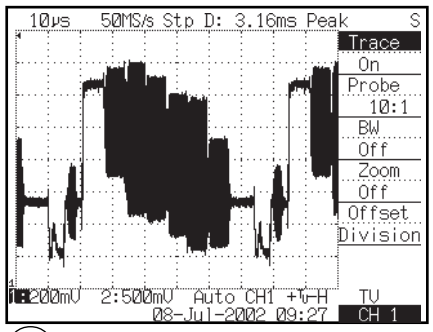
50 SDA33



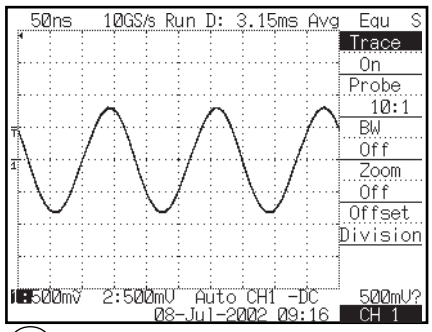
51 SCL



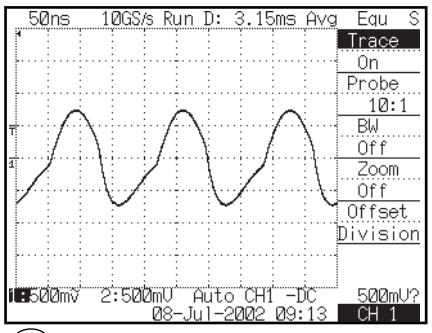
52 SDA



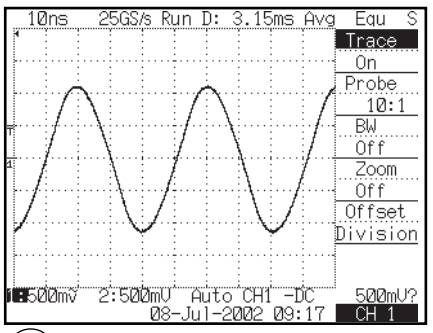
53 Video Out Processor



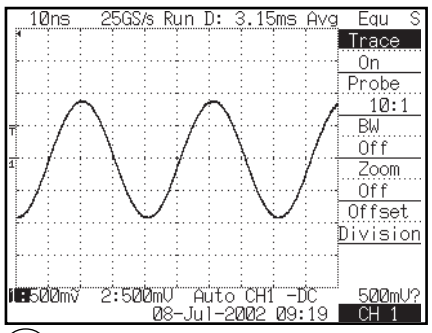
54 Xtal In 6 MHz



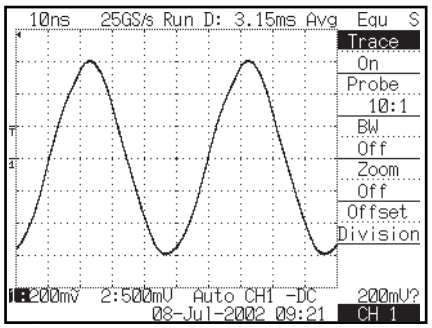
55 Xtal Out 6 MHz



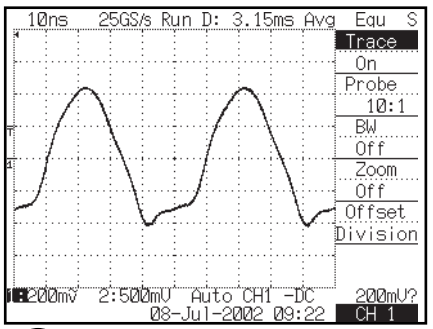
56 Xtal In 24.576 MHz



57 Xtal Out 24.576 MHz

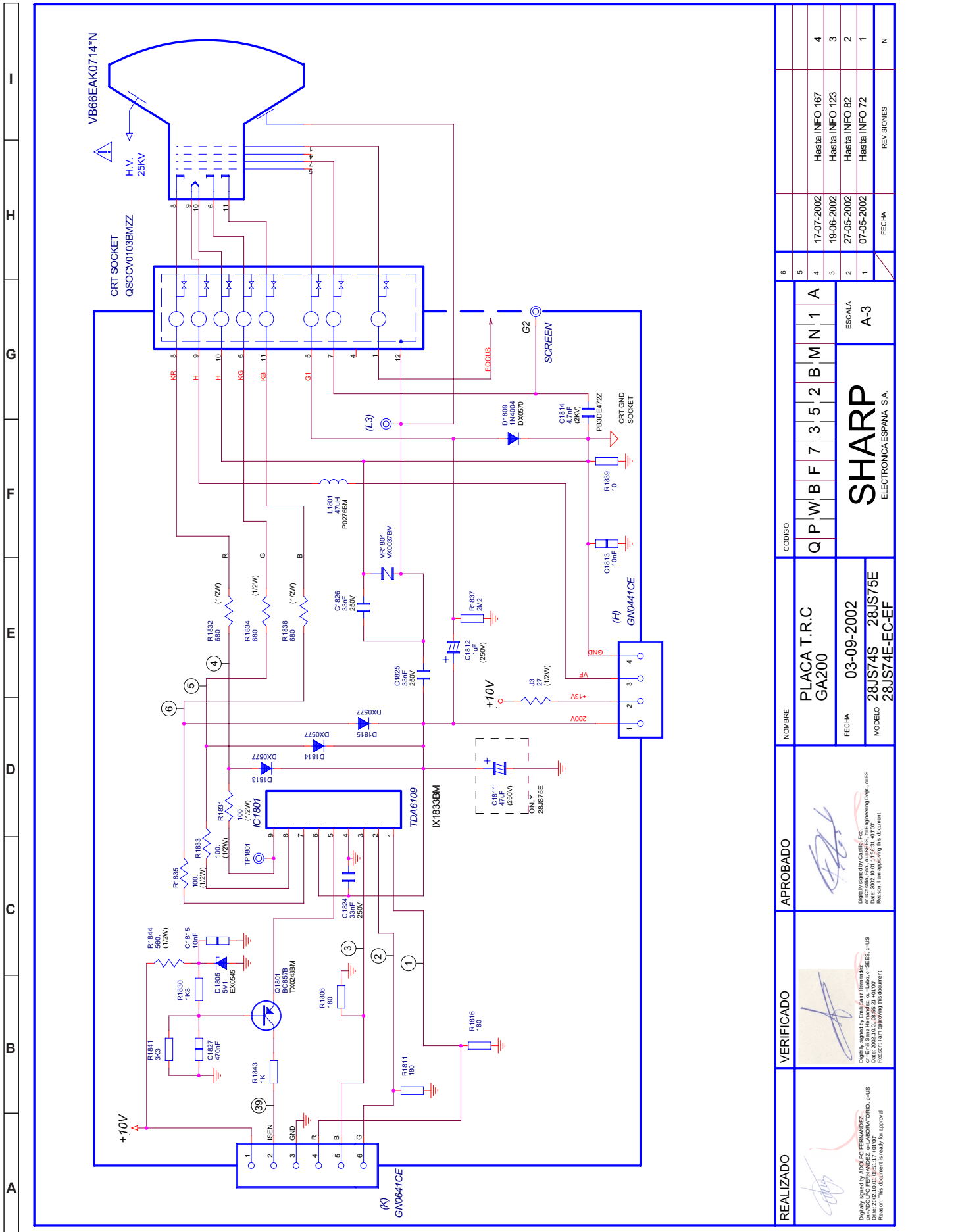


58 Xtal In 20.25 MHz



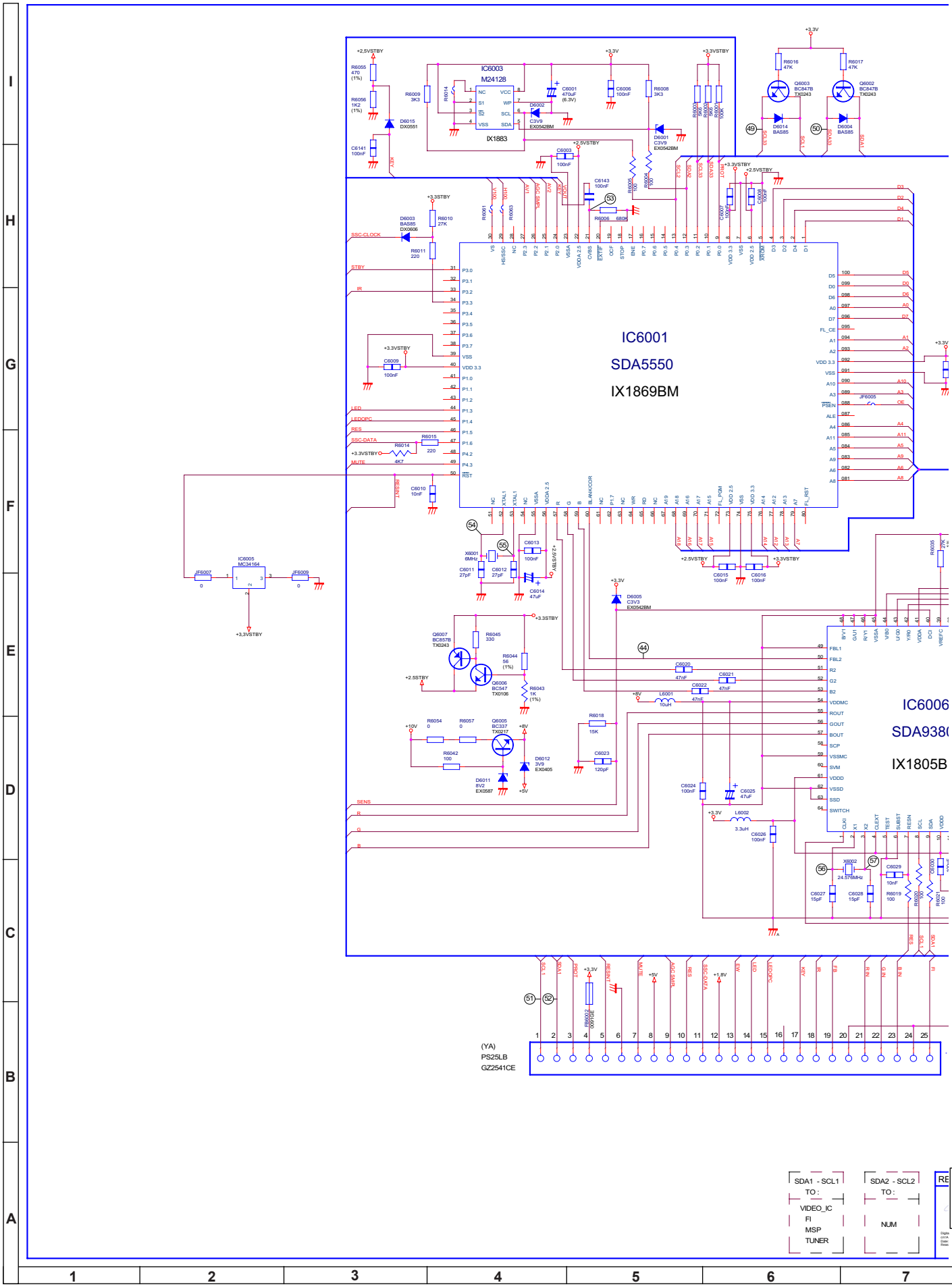
59 Xtal Out 20.25 MHz

Schematic Diagram of CRT Unit (F7352N1A)



| | | |

Schematic Diagram of Digital Module Unit (F7353N0D)



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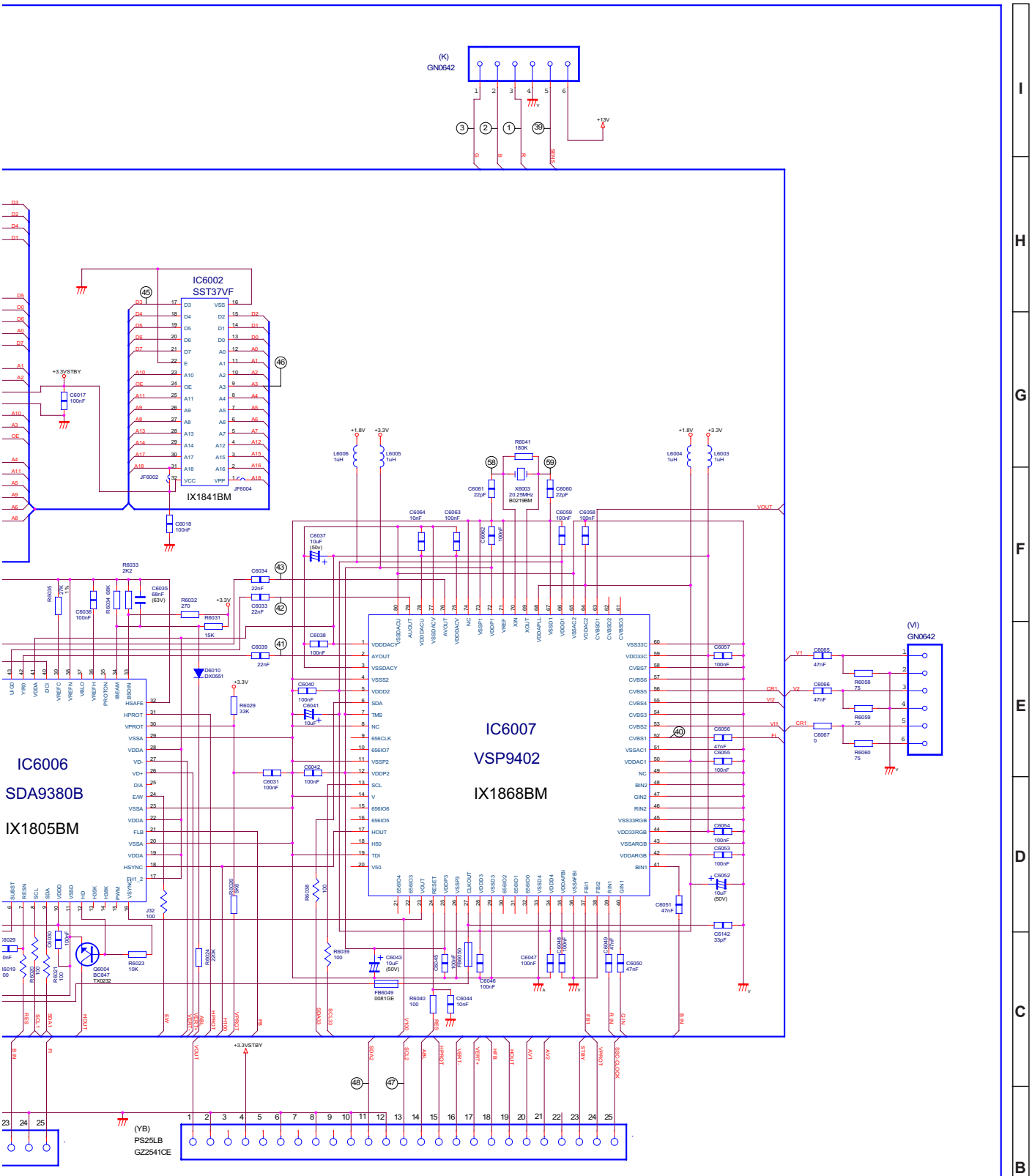
Schematic Diagram of Digital Module Unit (F7353N0D)



REALIZADO	VERIFICADO	APROBADO	NOMBRE	CODIGO
			Digital Module	Q K I T P 7 3 5 3 B M N 0 D
			FECHA 02-08-2002	SHARP ELECTRONICA ESPANA S.A.
			MODELO 28JS74S 28JS74E_EC_EF	ESCALA A-1

REVISIONES		
17-07-2002	Hasta INFO 167	15
12-07-2002	Hasta INFO 160	14
19-06-2002	Hasta INFO 123	13
18-06-2002	Hasta INFO 122	12
12-06-2002	Hasta INFO 113	11
11-06-2002	Hasta INFO 111	10

Schematic Diagram of Mother Board Unit (F7351N1A)

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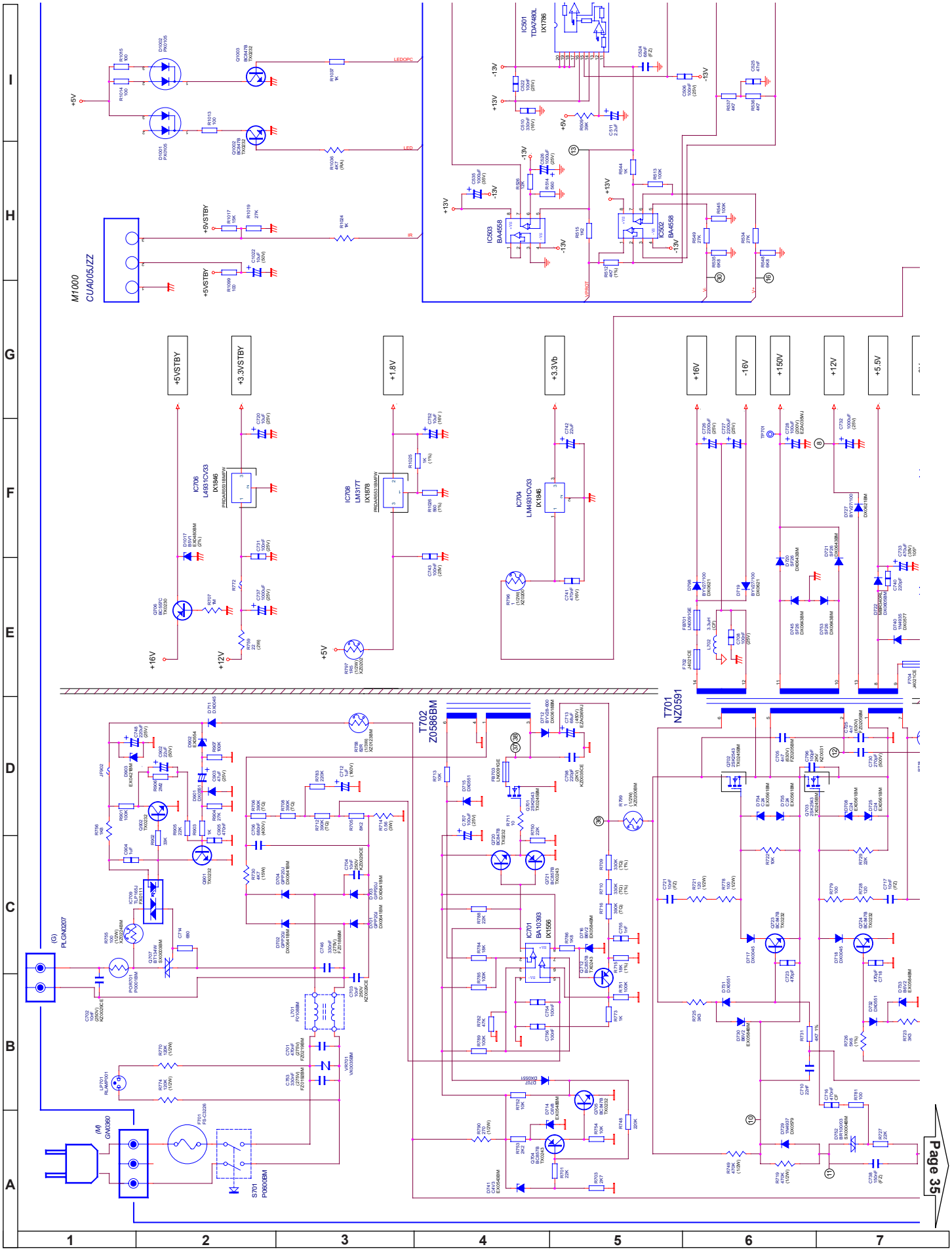

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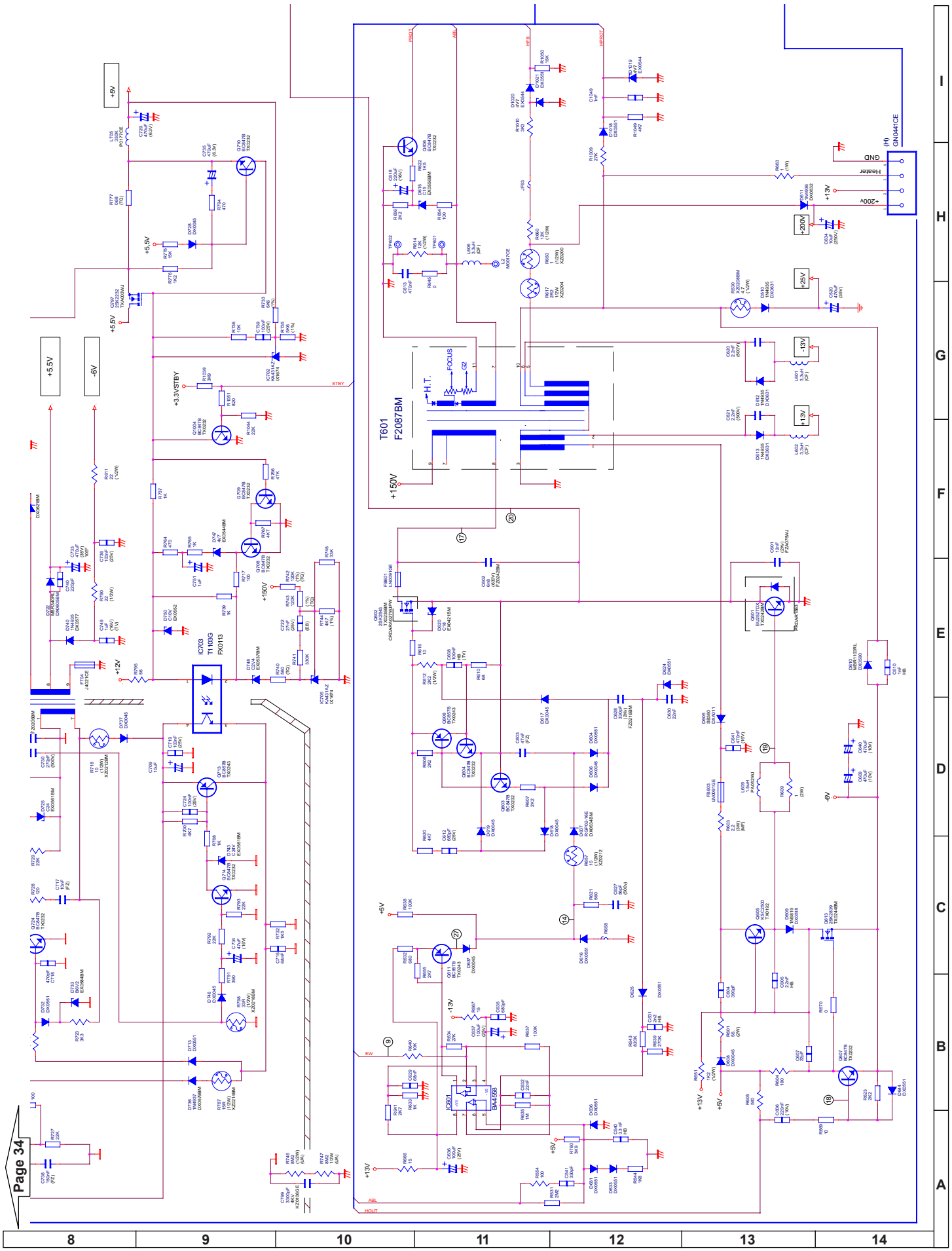
Page 37

Schematic Diagram of Mother Board Unit (F7351N1A)



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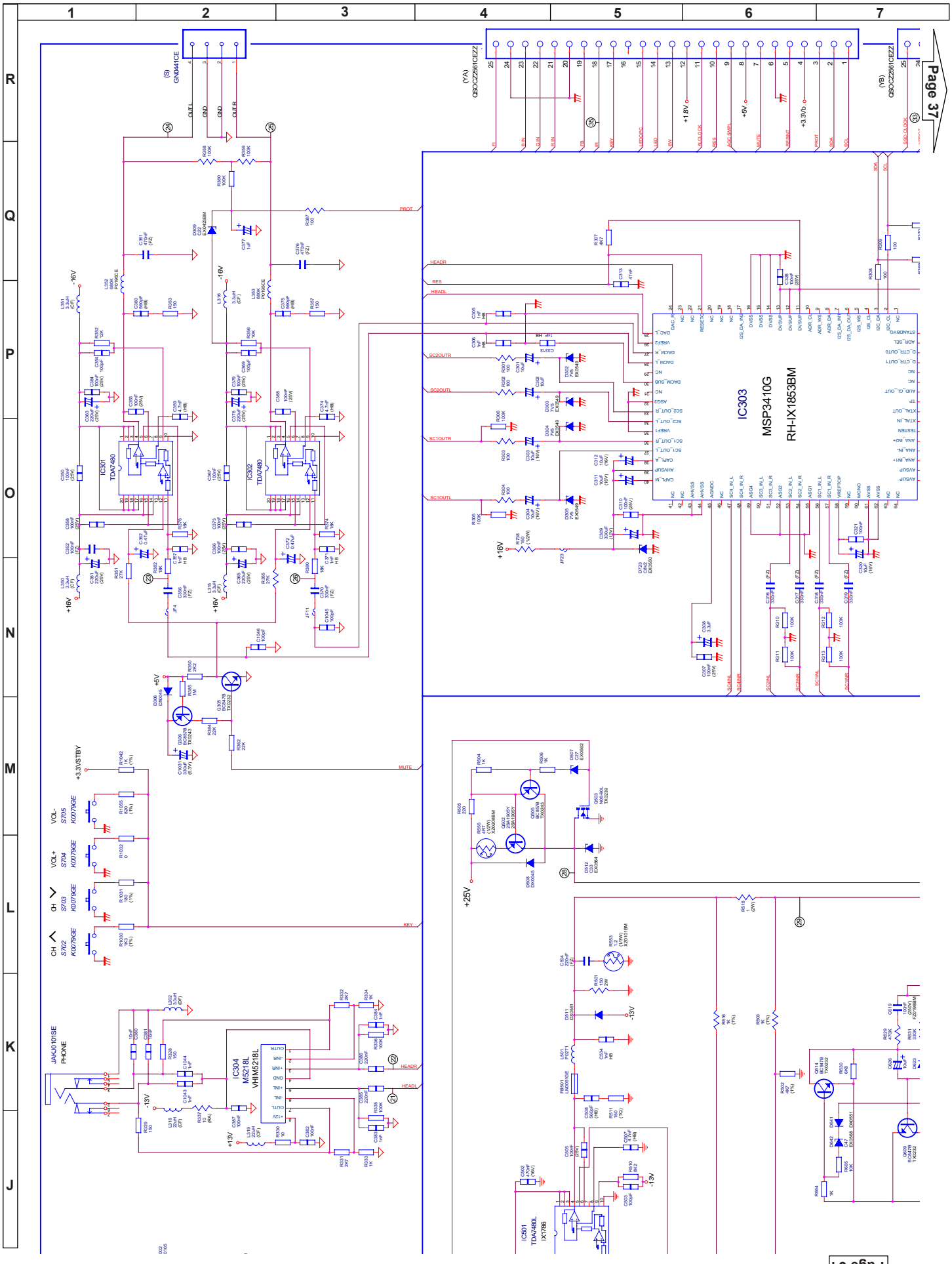
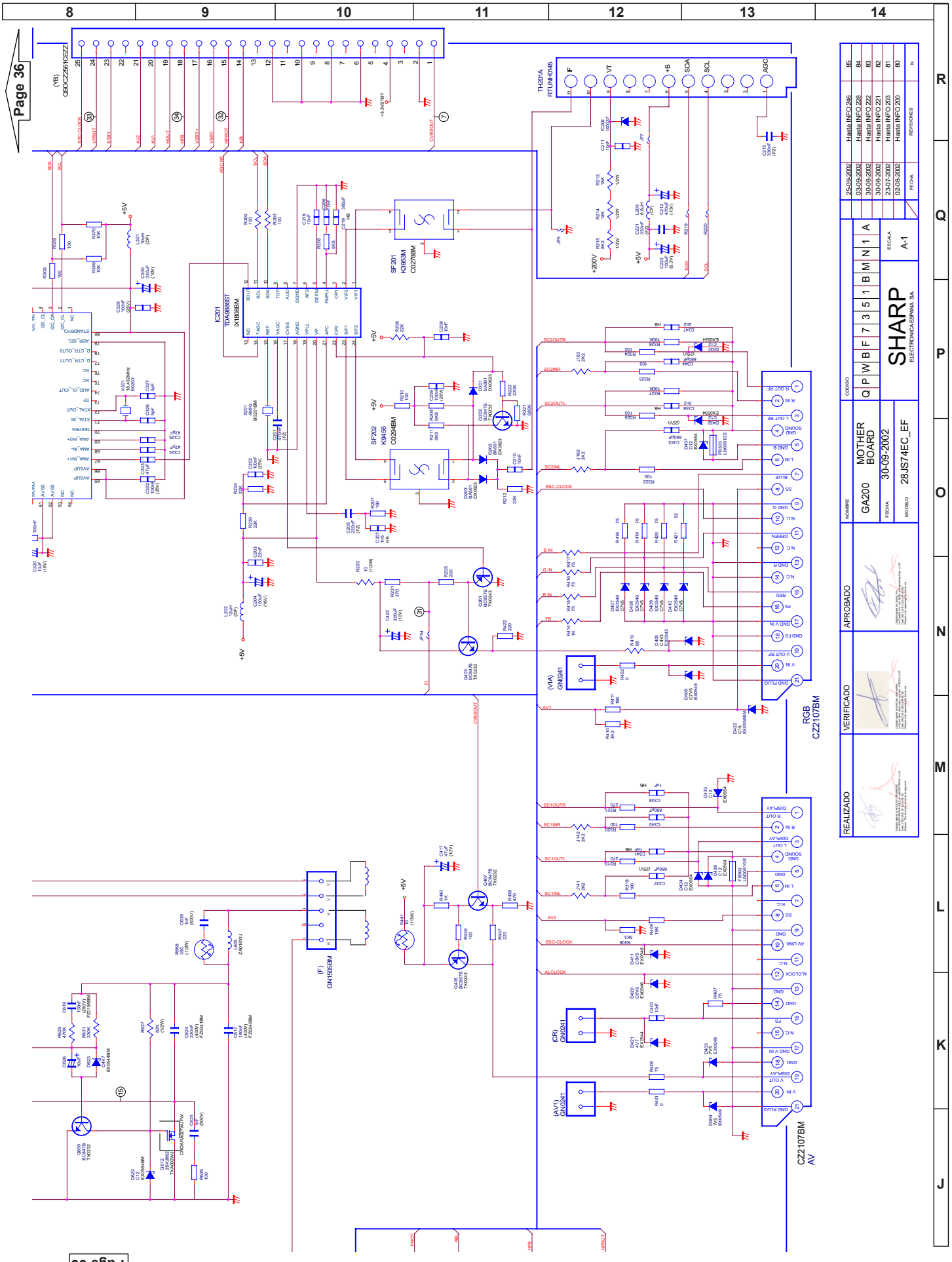
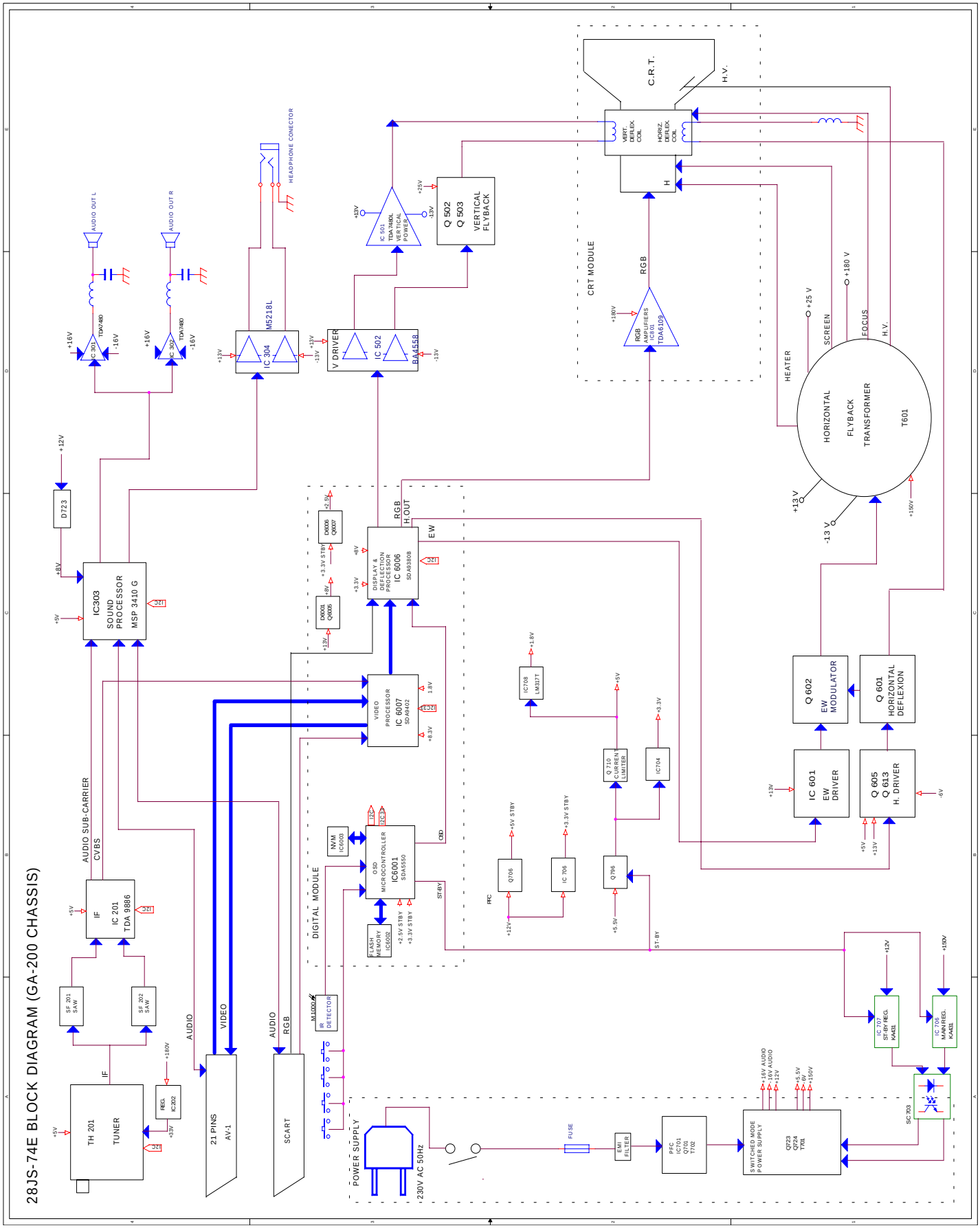
SCHEMATIC DIAGRAM OF MOTHER BOARD UNIT (F7351N1A)



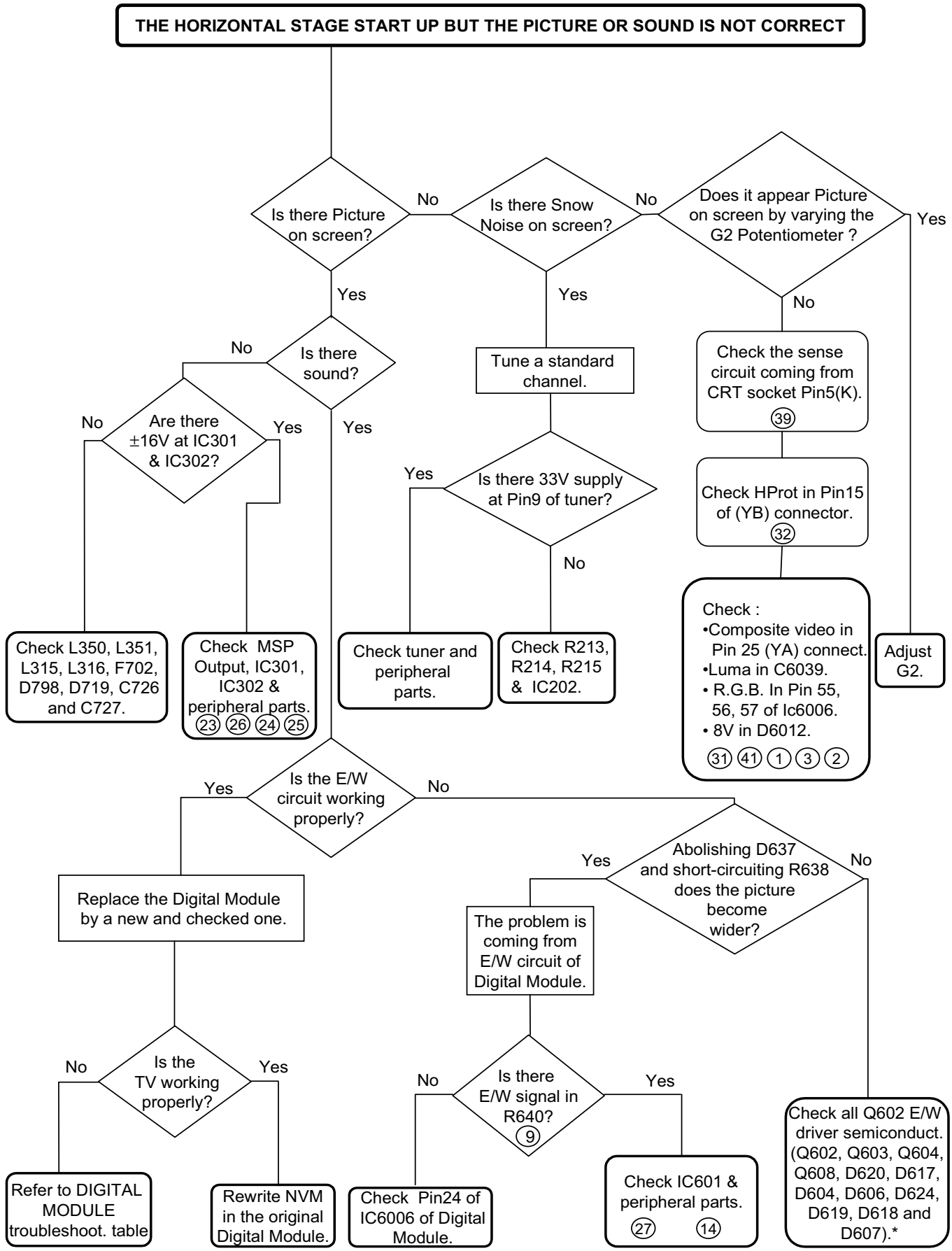
SCHEMATIC DIAGRAM OF MOTHER BOARD UNIT (F7351N1A)



BLOCK DIAGRAM

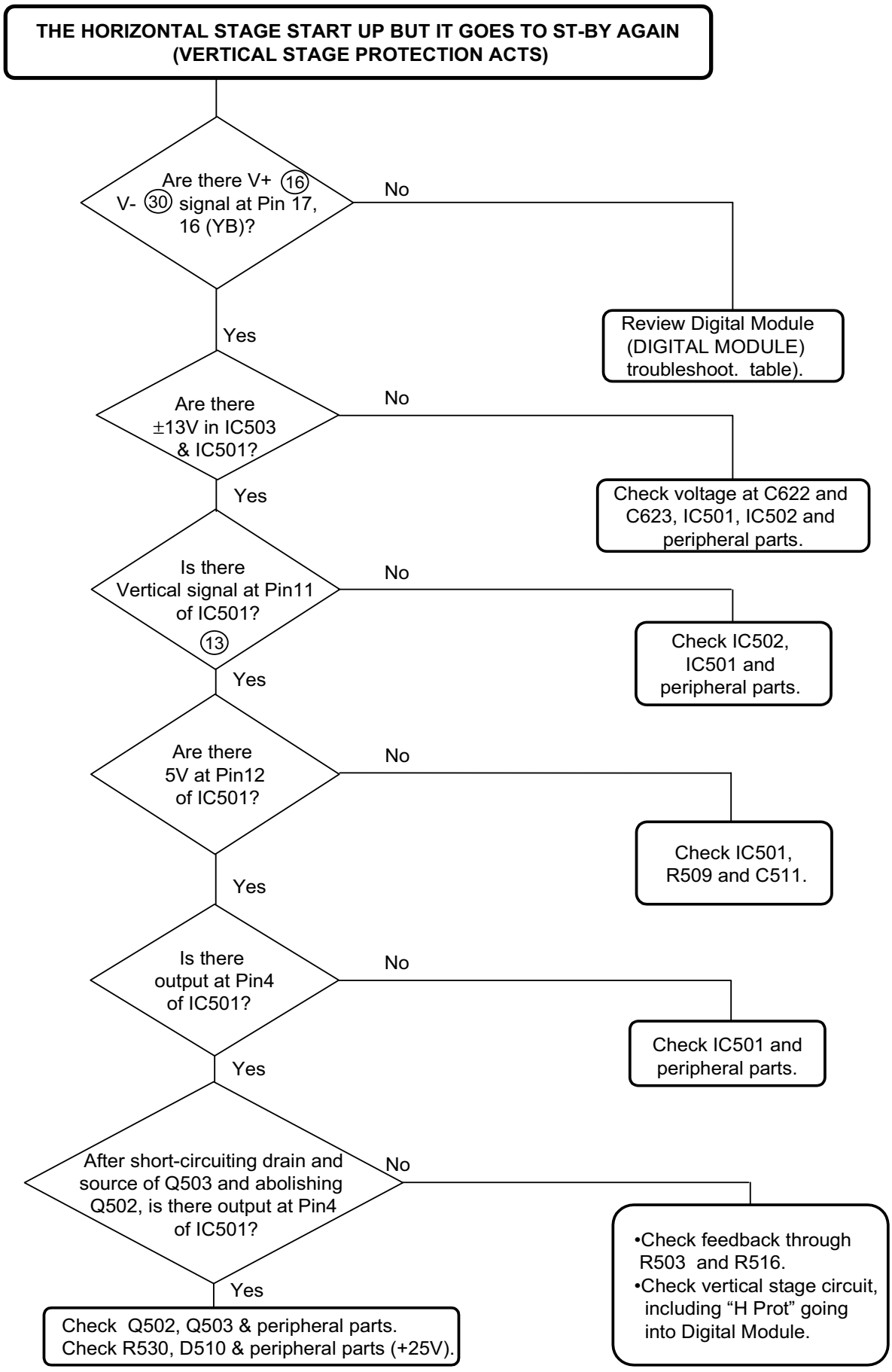


TROUBLESHOOTING TABLES


THE HORIZONTAL STAGE START UP BUT THE PICTURE OR SOUND IS NOT CORRECT
Is there Picture on screen?
No
Is there Snow Noise on screen?
No
Does it appear Picture on screen by varying the G2 Potentiometer ?
Yes
Yes
Yes
No
Is there sound?
No
Yes
Tune a standard channel.
Check the sense circuit coming from CRT socket Pin5(K). (39)
No
Are there ±16V at IC301 & IC302?
No
Yes
Yes
Is there 33V supply at Pin9 of tuner?
Yes
No
Check HProt in Pin15 of (YB) connector. (32)
Check L350, L351, L315, L316, F702, D798, D719, C726 and C727.
Check MSP Output, IC301, IC302 & peripheral parts. (23) (26) (24) (25)
Check tuner and peripheral parts.
Check R213, R214, R215 & IC202.
Check :
•Composite video in Pin 25 (YA) connect.
•Luma in C6039.
• R.G.B. In Pin 55, 56, 57 of Ic6006.
• 8V in D6012.
(31) (41) (1) (3) (2)
Adjust G2.
Yes
Is the E/W circuit working properly?
No
Yes
Abolishing D637 and short-circuiting R638 does the picture become wider?
No
Replace the Digital Module by a new and checked one.
The problem is coming from E/W circuit of Digital Module.
No
Is the TV working properly?
Yes
No
Is there E/W signal in R640? (9)
Yes
Refer to DIGITAL MODULE troubleshoot. table
Rewrite NVM in the original Digital Module.
Check Pin24 of IC6006 of Digital Module.
Check IC601 & peripheral parts. (27) (14)
Check all Q602 E/W driver semiconduct. (Q602, Q603, Q604, Q608, D620, D617, D604, D606, D624, D619, D618 and D607).*

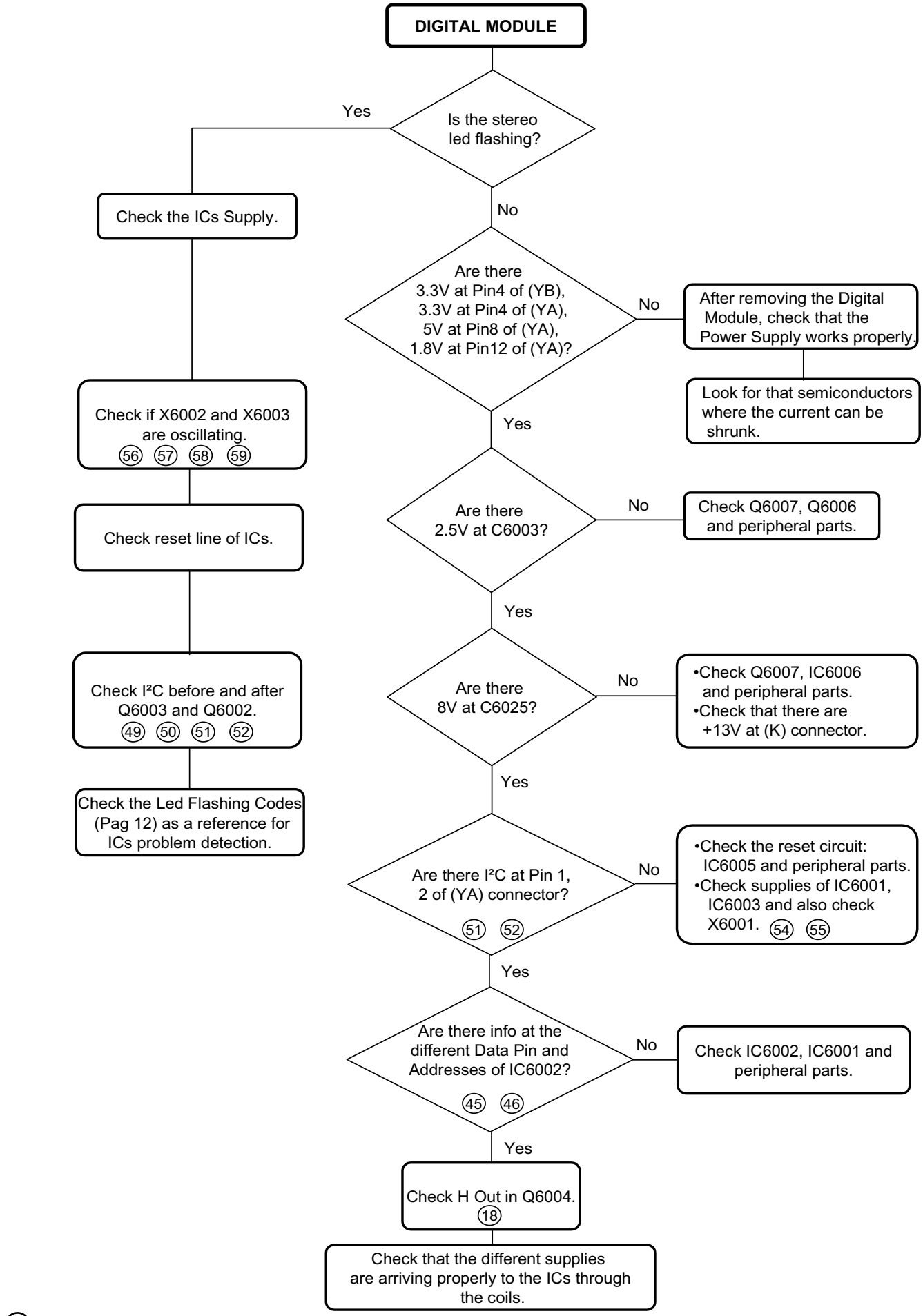
*Although the checking of these parts could be right, they may be partially damaged. So if the problem remains proceed to replace all parts.

(xx) Test Point

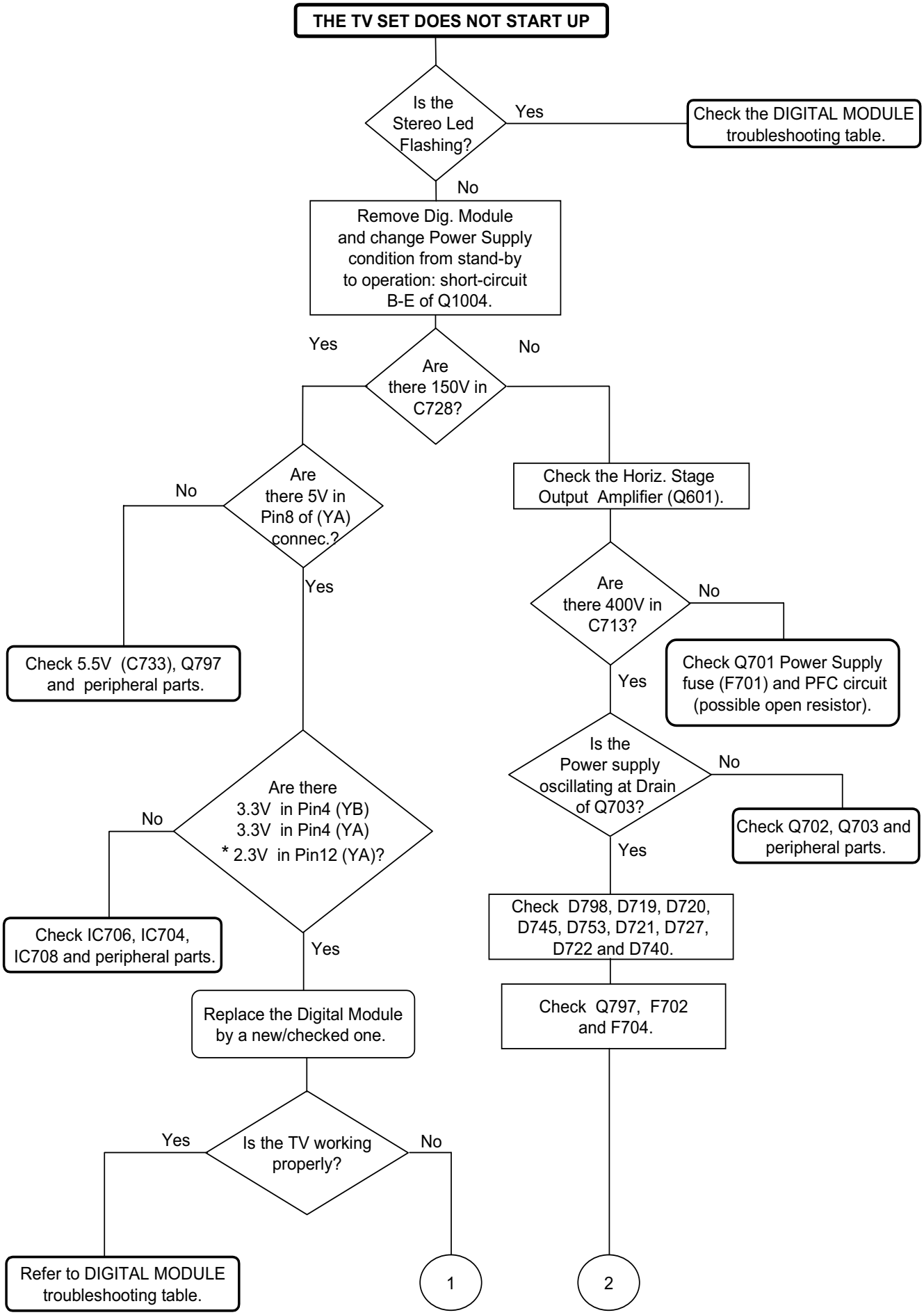

THE HORIZONTAL STAGE START UP BUT IT GOES TO ST-BY AGAIN
(VERTICAL STAGE PROTECTION ACTS)
Are there V+ (16) V- (30) signal at Pin 17, 16 (YB)?
No
Review Digital Module (DIGITAL MODULE) troubleshoot. table).
Yes
Are there ±13V in IC503 & IC501?
No
Check voltage at C622 and C623, IC501, IC502 and peripheral parts.
Yes
Is there Vertical signal at Pin11 of IC501? (13)
No
Check IC502, IC501 and peripheral parts.
Yes
Are there 5V at Pin12 of IC501?
No
Check IC501, R509 and C511.
Yes
Is there output at Pin4 of IC501?
No
Check IC501 and peripheral parts.
Yes
After short-circuiting drain and source of Q503 and abolishing Q502, is there output at Pin4 of IC501?
No
•Check feedback through R503 and R516.
•Check vertical stage circuit, including “H Prot” going into Digital Module.
Yes
Check Q502, Q503 & peripheral parts.
Check R530, D510 & peripheral parts (+25V).

Note: The different supplies of Vertical Stage are coming from the flyback transformer through Vertical Stage ICs, so only is fed when the Horizontal Stage is working.

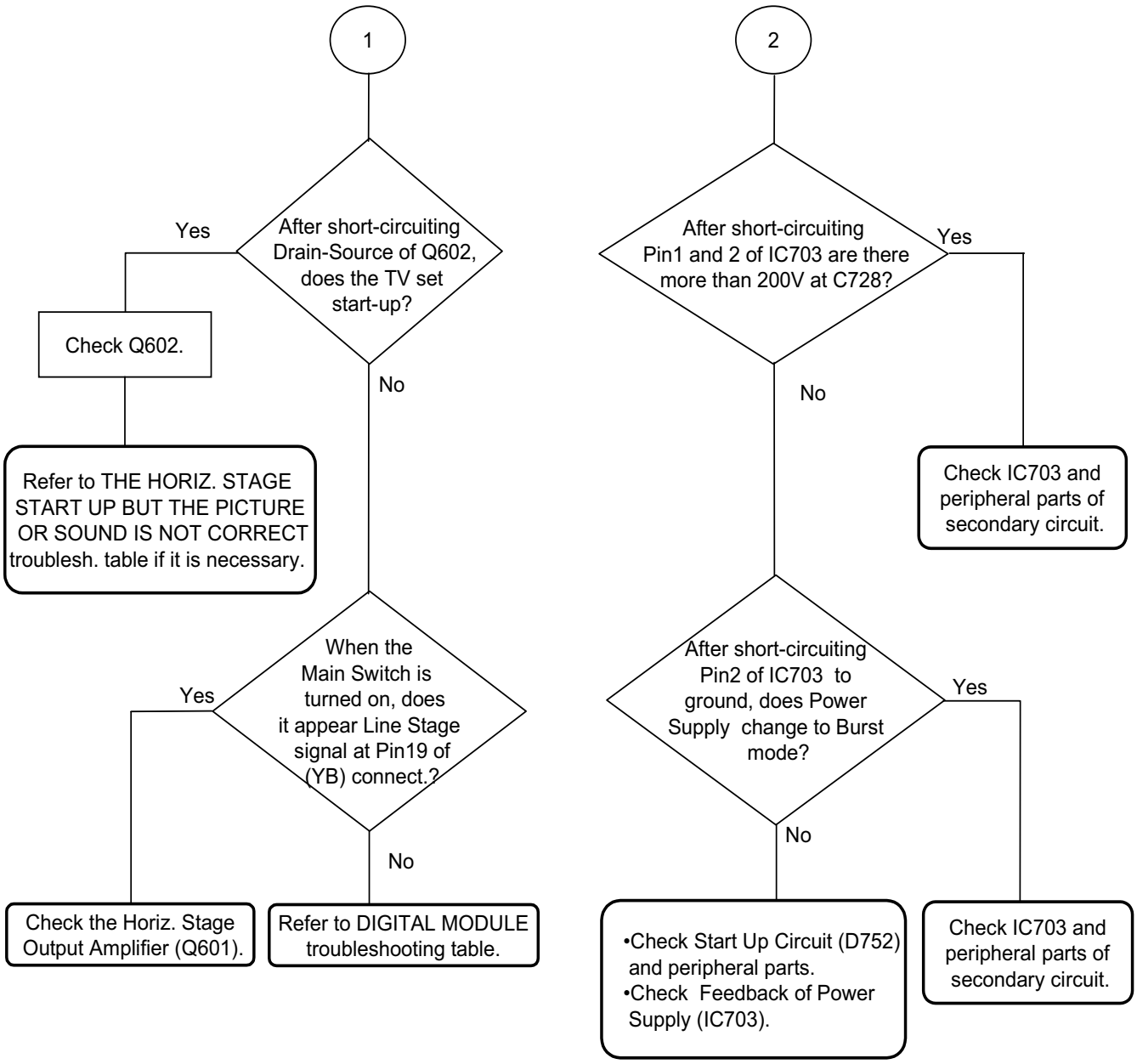
(xx) Test Point


DIGITAL MODULE
Is the stereo led flashing?
Yes
No
Check the ICs Supply.
Are there 3.3V at Pin4 of (YB), 3.3V at Pin4 of (YA), 5V at Pin8 of (YA), 1.8V at Pin12 of (YA)?
No
After removing the Digital Module, check that the Power Supply works properly.
Look for that semiconductors where the current can be shrunk.
Yes
Check if X6002 and X6003 are oscillating.
56 57 58 59
Are there 2.5V at C6003?
No
Check Q6007, Q6006 and peripheral parts.
Yes
Check reset line of ICs.
Check I²C before and after Q6003 and Q6002.
49 50 51 52
Are there 8V at C6025?
No
•Check Q6007, IC6006 and peripheral parts.
•Check that there are +13V at (K) connector.
Yes
Check the Led Flashing Codes (Pag 12) as a reference for ICs problem detection.
Are there I²C at Pin 1, 2 of (YA) connector?
51 52
No
•Check the reset circuit: IC6005 and peripheral parts.
•Check supplies of IC6001, IC6003 and also check X6001. 54 55
Yes
Are there info at the different Data Pin and Addresses of IC6002?
45 46
No
Check IC6002, IC6001 and peripheral parts.
Yes
Check H Out in Q6004.
18
Check that the different supplies are arriving properly to the ICs through the coils.

(xx) Test Point


THE TV SET DOES NOT START UP
Is the Stereo Led Flashing?
Yes
Check the DIGITAL MODULE troubleshooting table.
No
Remove Dig. Module and change Power Supply condition from stand-by to operation: short-circuit B-E of Q1004.
Yes
Are there 150V in C728?
No
Are there 5V in Pin8 of (YA) connec.?
No
Check 5.5V (C733), Q797 and peripheral parts.
Yes
Are there 3.3V in Pin4 (YB) 3.3V in Pin4 (YA) * 2.3V in Pin12 (YA)?
No
Check IC706, IC704, IC708 and peripheral parts.
Yes
Replace the Digital Module by a new/checked one.
Is the TV working properly?
Yes
Refer to DIGITAL MODULE troubleshooting table.
No
1
Check the Horiz. Stage Output Amplifier (Q601).
Are there 400V in C713?
No
Check Q701 Power Supply fuse (F701) and PFC circuit (possible open resistor).
Yes
Is the Power supply oscillating at Drain of Q703?
No
Check Q702, Q703 and peripheral parts.
Yes
Check D798, D719, D720, D745, D753, D721, D727, D722 and D740.
Check Q797, F702 and F704.
2

*In the original situation (with the Digital Module assembled) this value is 1.8V.


1
After short-circuiting Drain-Source of Q602, does the TV set start-up?
Yes
Check Q602.
Refer to THE HORIZ. STAGE START UP BUT THE PICTURE OR SOUND IS NOT CORRECT troublesh. table if it is necessary.
No
When the Main Switch is turned on, does it appear Line Stage signal at Pin19 of (YB) connect.?
Yes
Check the Horiz. Stage Output Amplifier (Q601).
No
Refer to DIGITAL MODULE troubleshooting table.
2
After short-circuiting Pin1 and 2 of IC703 are there more than 200V at C728?
Yes
Check IC703 and peripheral parts of secondary circuit.
No
After short-circuiting Pin2 of IC703 to ground, does Power Supply change to Burst mode?
Yes
Check IC703 and peripheral parts of secondary circuit.
No
•Check Start Up Circuit (D752) and peripheral parts.
•Check Feedback of Power Supply (IC703).

Note: Once the TV set has been repaired, have in mind to put the TV set in the default situation (undo short-circuits, **specially the applied in Q1004**).

ICs ADDITIONAL INFORMATION

TDA9886TS (IC201)

Features

- 5 V supply voltage
- Gain controlled wide-band Vision Intermediate Frequency (VIF) amplifier, AC-coupled
- Multistandard true synchronous demodulation with active carrier regeneration: very linear demodulation, good intermodulation figures, reduced harmonics, and excellent pulse response
- Gated phase detector for L and L-accent standard
- Fully integrated VIF Voltage Controlled Oscillator (VCO), alignment-free, frequencies switchable for all negative and positive modulated standards via I^{2}C-bus
- Digital acquisition help, VIF frequencies of 33.4, 33.9, 38.0, 38.9, 45.75, and 58.75 MHz
- 4 MHz reference frequency input: signal from Phase-Locked Loop (PLL) tuning system or operating as crystal oscillator
- VIF Automatic Gain Control (AGC) detector for gain control, operating as peak sync detector for negative modulated signals and as a peak white detector for positive modulated signals
- External AGC setting via pin OP1
- Precise fully digital Automatic Frequency Control (AFC) detector with 4-bit digital-to-analog converter, AFC bits readable via I^{2}C-bus
- TakeOver Point (TOP) adjustable via I^{2}C-bus or alternatively with potentiometer
- Fully integrated sound carrier trap for 4.5, 5.5, 6.0, and 6.5 MHz, controlled by FM-PLL oscillator
- Sound IF (SIF) input for single reference Quasi Split Sound (QSS) mode, PLL controlled
- SIF-AGC for gain controlled SIF amplifier, single reference QSS mixer able to operate in high performance single reference QSS mode and in intercarrier mode, switchable via I^{2}C-bus
- AM demodulator without extra reference circuit
- Alignment-free selective FM-PLL demodulator with high linearity and low noise
- I^{2}C-bus control for all functions
- I^{2}C-bus transceiver with pin programmable Module Address (MAD)
- Four I^{2}C-bus addresses via MAD.

2 GENERAL DESCRIPTION

The TDA9885 is an alignment-free multistandard (PAL and NTSC) vision and sound IF signal PLL demodulator for negative modulation only and FM processing.

The TDA9886 is an alignment-free multistandard (PAL, SECAM and NTSC) vision and sound IF signal PLL demodulator for positive and negative modulation, including sound AM and FM processing.

3 APPLICATIONS

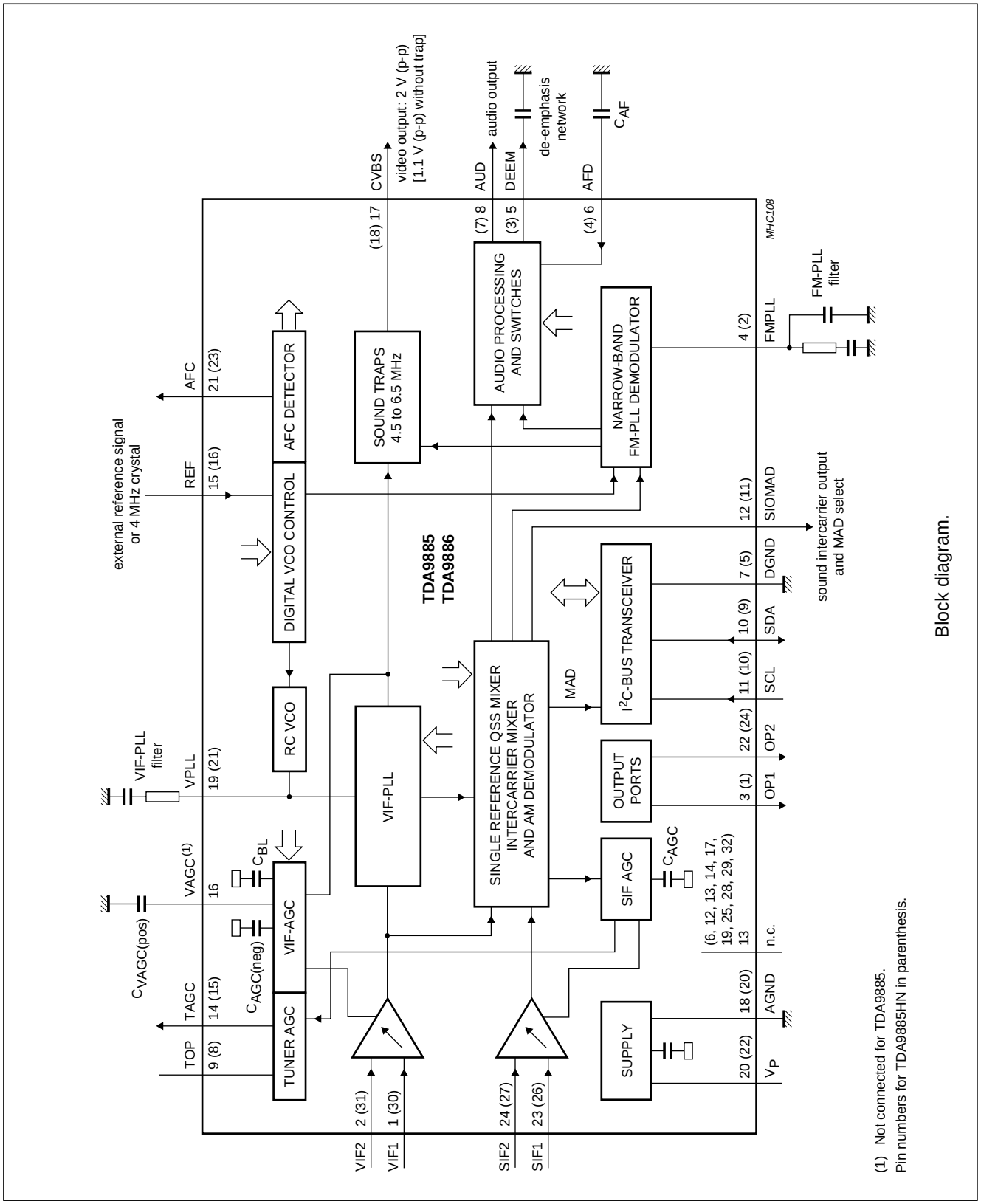
- TV, VTR, PC and STB applications.

4 ORDERING INFORMATION

TYPE NUMBER	PACKAGE		
	NAME	DESCRIPTION	VERSION
TDA9885T/V3	SO24	plastic small outline package; 24 leads; body width 7.5 mm	SOT137-1
TDA9885TS/V3	SSOP24	plastic shrink small outline package; 24 leads; body width 5.3 mm	SOT340-1
TDA9885HN/V3	HVQFN32	plastic, heatsink very thin quad flat package; no leads; 32 terminals; body $5 \times 5 \times 0.85$ mm	SOT617-1
TDA9886T/V3	SO24	plastic small outline package; 24 leads; body width 7.5 mm	SOT137-1
TDA9886TS/V3	SSOP24	plastic shrink small outline package; 24 leads; body width 5.3 mm	SOT340-1

TDA9886TS (IC201)

BLOCK DIAGRAM



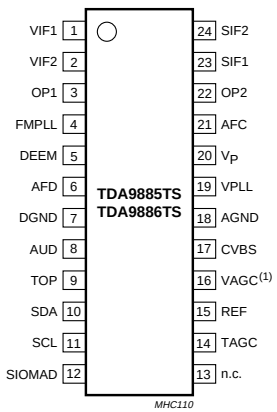
Block diagram.

(1) Not connected for TDA9885.
Pin numbers for TDA9885HN in parenthesis.

TDA9886TS (IC201)

PINNING

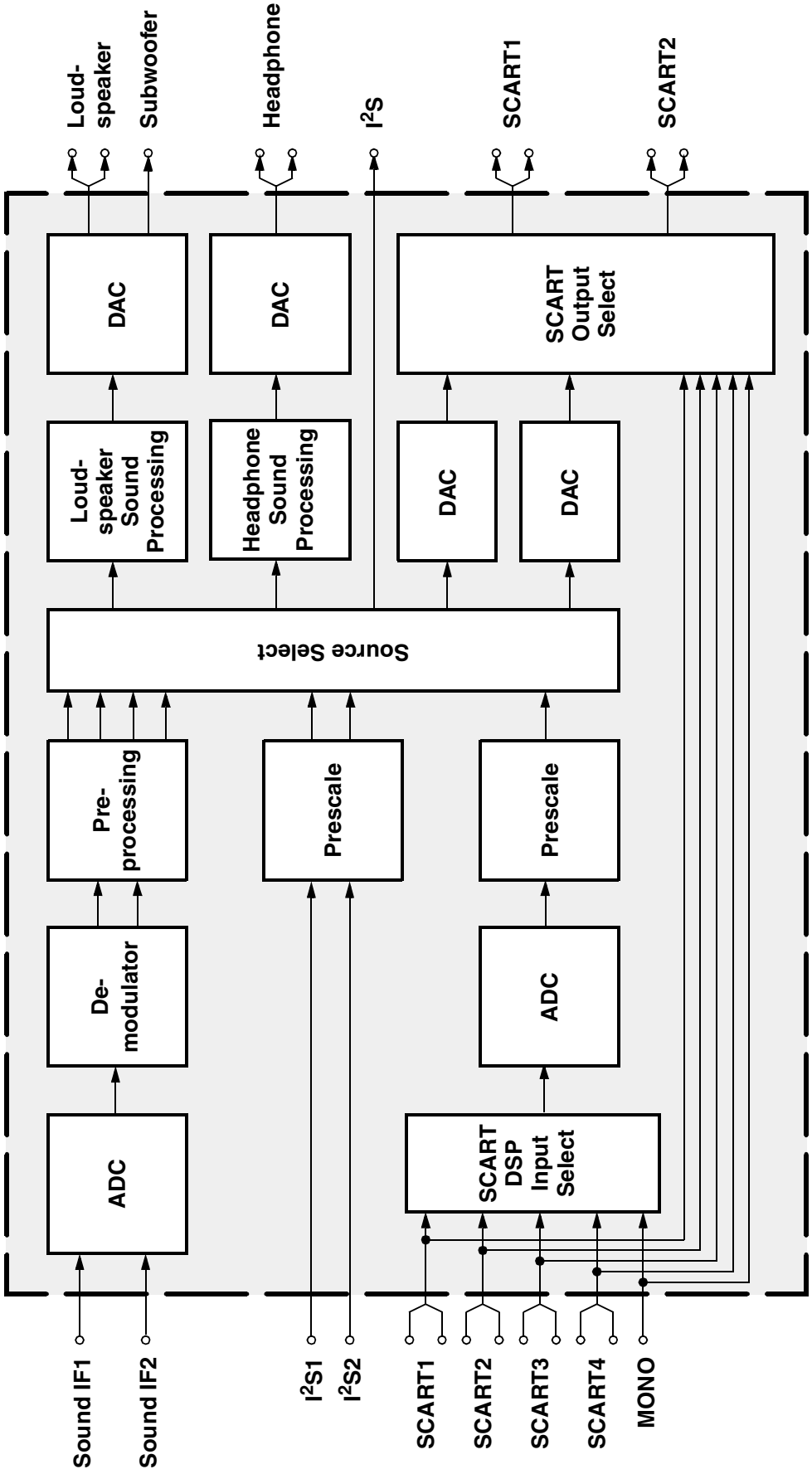
SYMBOL	PIN			DESCRIPTION
	TDA9886T TDA9886TS	TDA9885T TDA9885TS	TDA9885HN	
VIF1	1	1	30	VIF differential input 1
VIF2	2	2	31	VIF differential input 2
n.c.	–	–	32	not connected
OP1	3	3	1	output port 1; open-collector
FMPLL	4	4	2	FM-PLL for loop filter
DEEM	5	5	3	de-emphasis output for capacitor
AFD	6	6	4	AF decoupling input for capacitor
DGND	7	7	5	digital ground
n.c.	–	–	6	not connected
AUD	8	8	7	audio output
TOP	9	9	8	tuner AGC TakeOver Point (TOP) for resistor adjustment
SDA	10	10	9	I^2C-bus data input and output
SCL	11	11	10	I^2C-bus clock input
SIOMAD	12	12	11	sound intercarrier output and MAD select with resistor
n.c.	–	–	12	not connected
n.c.	13	13	13	not connected
n.c.	–	–	14	not connected
TAGC	14	14	15	tuner AGC output
REF	15	15	16	4 MHz crystal or reference signal input
VAGC	16	–	–	VIF-AGC for capacitor
n.c.	–	16	17	not connected
CVBS	17	17	18	composite video output
n.c.	–	–	19	not connected
AGND	18	18	20	analog ground
VPLL	19	19	21	VIF-PLL for loop filter
V_P	20	20	22	supply voltage
AFC	21	21	23	AFC output
OP2	22	22	24	output port 2; open-collector
n.c.	–	–	25	not connected
SIF1	23	23	26	SIF differential input 1 and MAD select with resistor
SIF2	24	24	27	SIF differential input 2 and MAD select with resistor
n.c.	–	–	28	not connected
n.c.	–	–	29	not connected



Pin configuration for SSOP24.

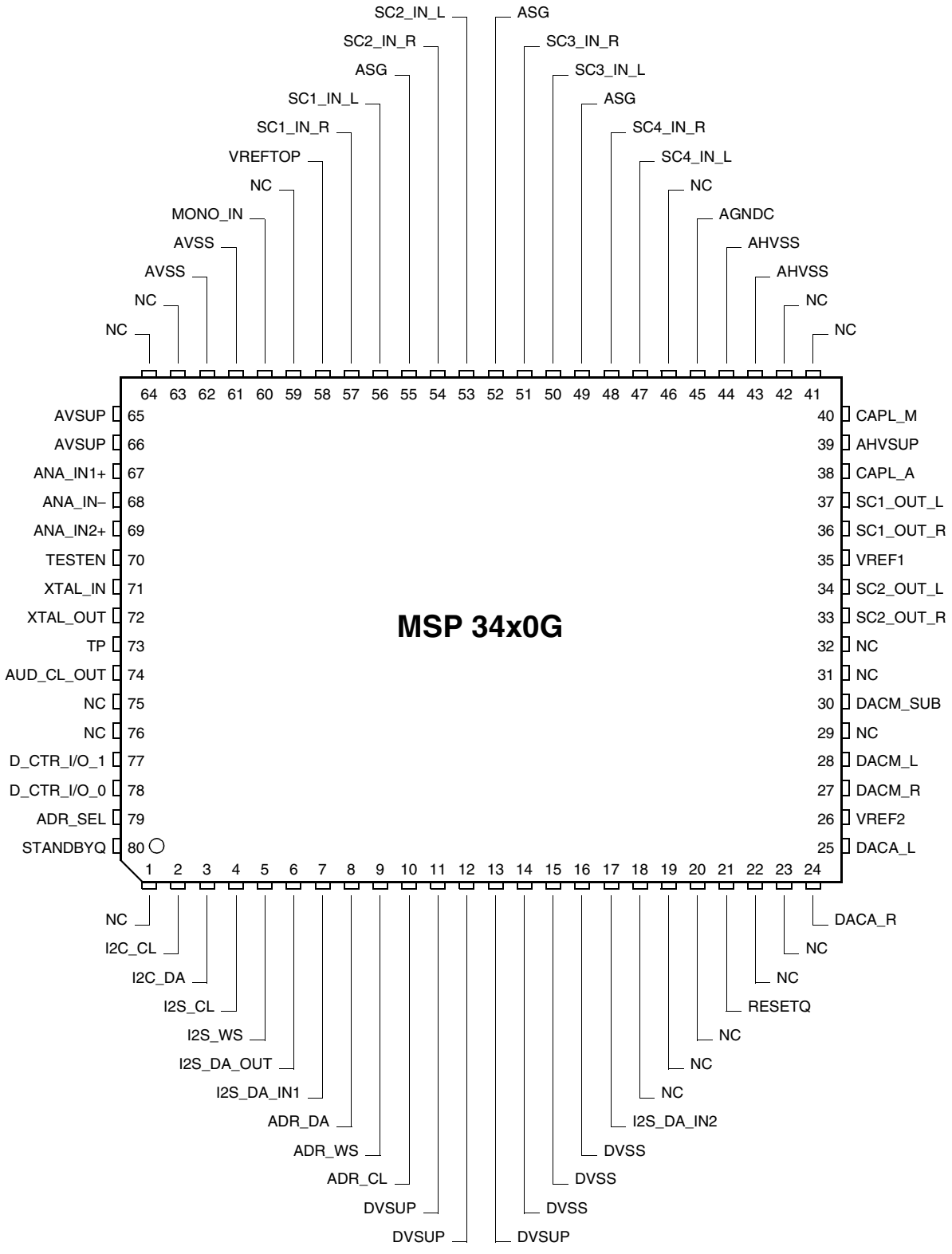
MSP3410G (IC303)

Block Diagram



MSP3410G (IC303)

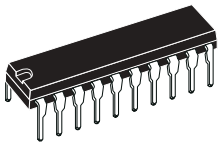
Pinning



PQFP80 package

TDA7480L (IC501)

- 10W OUTPUT POWER:
  R_L = 8Ω/4Ω; THD = 10%
- HIGH EFFICIENCY
- NO HEATSINK
- SPLIT SUPPLY
- OVERVOLTAGE PROTECTION
- ST-BY AND MUTE FEATURES
- SHORT CIRCUIT PROTECTION
- THERMAL OVERLOAD PROTECTION



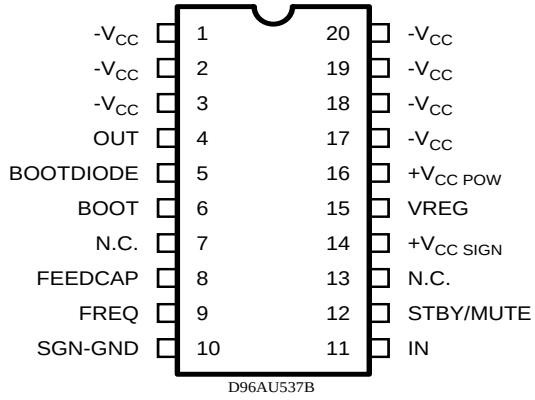
PDIP20 (14+3+3)

ORDERING NUMBER: TDA7480L

DESCRIPTION

The TDA7480L is an audio class-D amplifier assembled in Power DIP package specially designed for high efficiency applications mainly for TV and Home Stereo sets.

PIN CONNECTION (Top view)

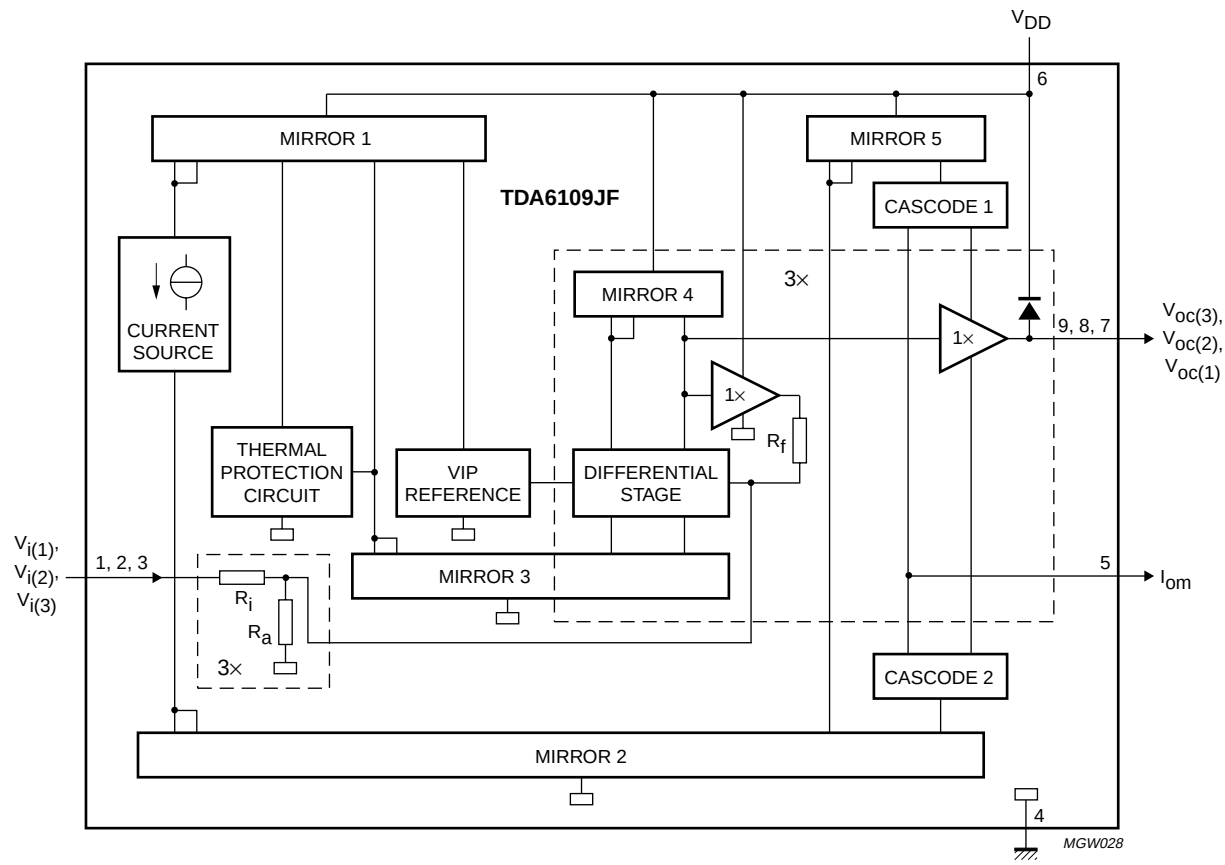


PIN FUNCTIONS

N.	Name	Function
1	$-V_{CC}$	NEGATIVE SUPPLY.
2	$-V_{CC}$	NEGATIVE SUPPLY.
3	$-V_{CC}$	NEGATIVE SUPPLY.
4	OUT	PWM OUTPUT
5	BOOTDIODE	BOOTSTRAP DIODE ANODE
6	BOOT	BOOTSTRAP CAPACITOR
7	NC	NOT CONNECTED
8	FEEDCAP	FEEDBACK INTEGRATING CAPACITANCE
9	FREQUENCY	SETTING FREQUENCY RESISTOR
10	SGN-GND	SIGNAL GROUND
11	IN	INPUT
12	ST-BY-MUTE	ST-BY/ MUTE CONTROL PIN
13	NC	NOT CONNECTED
14	$+V_{CC}$ SIGN	POSITIVE SIGNAL SUPPLY
15	VREG	10V INTERNAL REGULATOR
16	$+V_{CC}$ POW	POSITIVE POWER SUPPLY
17	$-V_{CC}$	NEGATIVE SUPPLY (TO BE CONNECTED TO PIN 16 VIA C5)
18	$-V_{CC}$	NEGATIVE SUPPLY
19	$-V_{CC}$	NEGATIVE SUPPLY
20	$-V_{CC}$	NEGATIVE SUPPLY

TDA6109JF (IC1801)

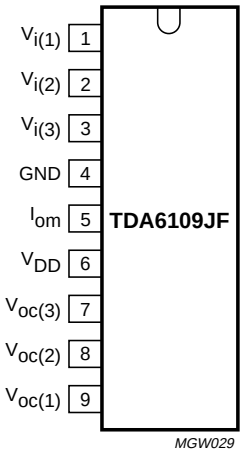
Block Diagram



Block diagram (one amplifier shown).

Pinning

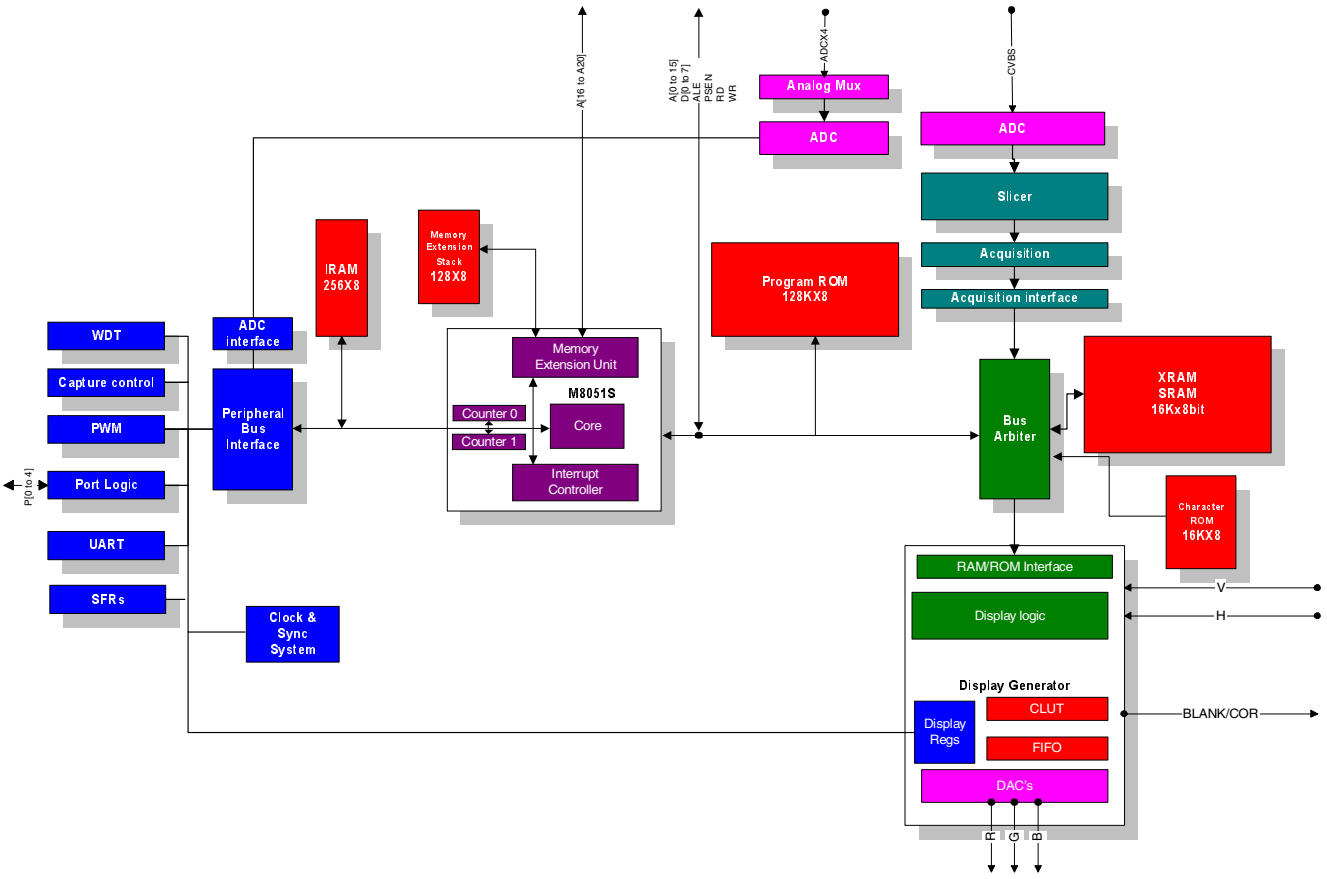
SYMBOL	PIN	DESCRIPTION
$V_{i(1)}$	1	inverting input 1
$V_{i(2)}$	2	inverting input 2
$V_{i(3)}$	3	inverting input 3
GND	4	ground (fin)
I_{om}	5	black current measurement output
V_{DD}	6	supply voltage
$V_{oc(3)}$	7	cathode output 3
$V_{oc(2)}$	8	cathode output 2
$V_{oc(1)}$	9	cathode output 1



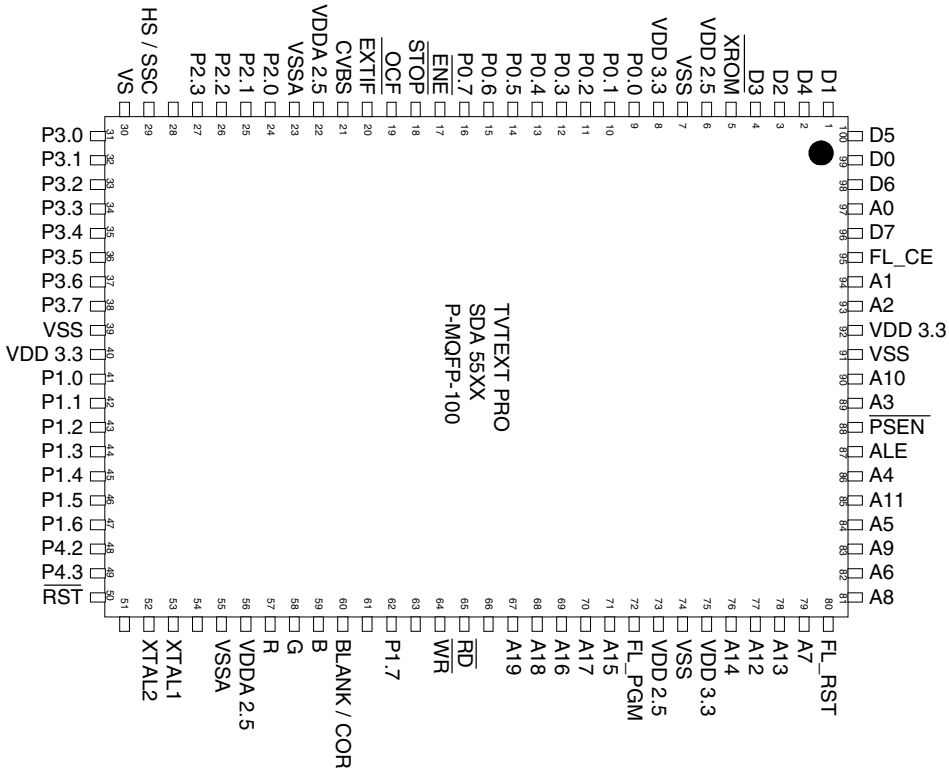
Pin configuration.

SDA5550 (IC6001)

Block Diagram

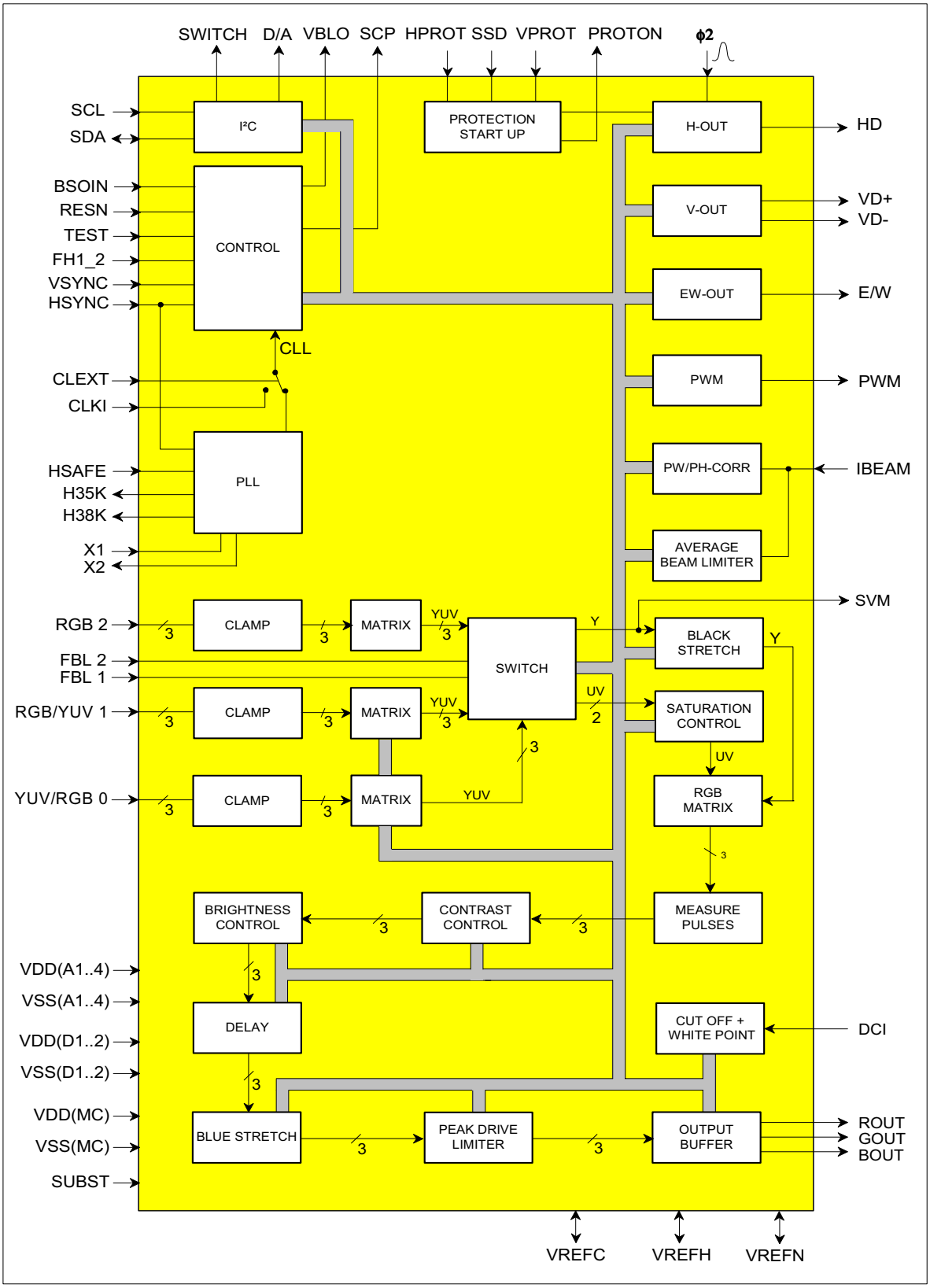


Pinning



SDA9380 (IC6006)

Block Diagram



SDA9380 (IC6006)

Pin Description

Pin No.	Name	Type	Description
1	CLKI	I/TTL	Input for external line locked clock *)
2	X2	Q	Reference oscillator output, Crystal
3	X1	I	Reference oscillator input, Crystal
4	CLEXT	I/TTL	Switching between internal (L) and external clock (H) *)
5	TEST	I/TTL	Switching between normal operation (TEST=L) and test mode (TEST=H: pins 4, 12, 13, 14, 15, 17, 49, 50, 63, 64 are additional test pins)
6	SUBST	S	Substrate pin, has to be connected to ground whenever a power supply or signal is applied
7	RESN	I/TTL	Reset input, active Low
8	SCL	I	I²C Bus clock
9	SDA	IQ	I²C Bus data
10	VDD(D)	S	Digital supply
11	VSS(D)	S	Digital ground
12	HD	Q	Control signal output for H driver stage (open drain)
13	H35K	Q/TTL	Goes High when frequency of HSYNC is about 35kHz or more
14	H38K	Q/TTL	Goes High when frequency of HSYNC is about 38kHz
15	PWM	Q/TTL	Pulse width modulated control signal output
16	VSYNC	I/TTL	V-sync input
17	FH1_2	I/TTL	Switching between $1f_H$ mode (L) and $2f_H$ mode (H)
18	HSYNC	I	HSYNC input (CLEXT=H: TTL; CLEXT=L: analog) *)
19	VDD(A1)	S	Analog supply
20	VSS(A1)	S	Analog ground
21	Φ2	I	Line flyback for H-delay compensation
22	VDD(A2)	S	Analog supply
23	VSS(A2)	S	Analog ground
24	E/W	Q	Control signal output for East-West raster correction
25	D/A	Q	Output of an I²C Bus controlled DC voltage
26	VD+	Q	Control signal output for DC coupled V-output stage
27	VD-	Q	Like VD+
28	VDD(A3)	S	Analog supply
29	VSS(A3)	S	Analog ground
30	VPROT	I	Watching external V-output stage (input is the V-saw-tooth from feedback resistor)
31	HPROT	I	Watching EHT (input is e.g. H-flyback)
32	HSAFE	I	Watching B+ when frequency of HD has to be decreased
33	BSOIN	I	Input for starting Black Switch-Off
34	IBEAM	I	Input for a beam current dependent signal for stabilization of width, height and H-phase
35	PROTON	Q/TTL	Protection on (goes High after response of H- or V-protection)

SDA9380 (IC6006)

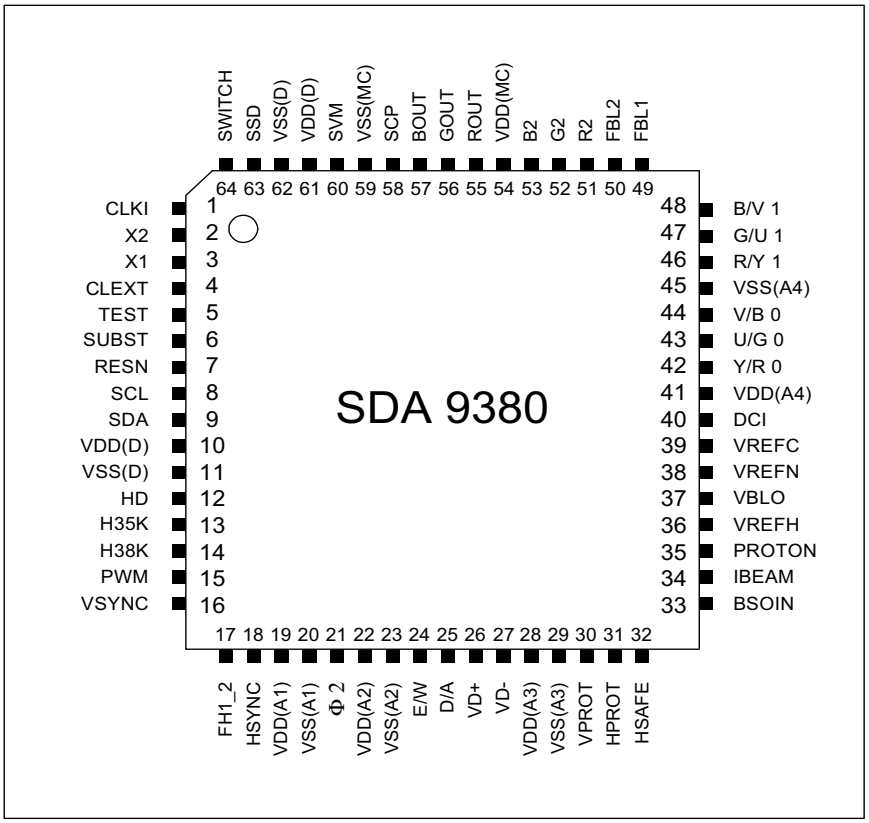
Pin Description

Pin No.	Name	Type	Description
36	VREFH	IQ	Reference voltage
37	VBLO	Q/TTL	Vertical blanking output
38	VREFN	IQ	Ground for VREFH
39	VREFC	I	Reference current input
40	DCI	I	Dark current input for cut off and white level control
41	VDD(A4)	S	Analog supply
42	Y/R 0	I	Luminance or R input
43	U/G 0	I	U signal or G input
44	V/B 0	I	V signal or B input
45	VSS(A4)	S	Analog ground
46	R/Y 1	I	First R or Y input for insertion
47	G/U 1	I	First G or U input for insertion
48	B/V 1	I	First B or V input for insertion
49	FBL1	I	Fast blanking input for RGB1
50	FBL2	I	Fast blanking input for RGB2
51	R2	I	Second R input for insertion
52	G2	I	Second G input for insertion
53	B2	I	Second B input for insertion
54	VDD(MC)	S	Analog supply for RGB output stage
55	ROUT	Q	R output
56	GOUT	Q	G output
57	BOUT	Q	B output
58	SCP	Q	Blanking signal with H- and color burst component (V-component selectable by I²C Bus)
59	VSS(MC)	S	Analog ground for RGB output stage
60	SVM	Q	Luminance output for scan velocity modulation circuit
61	VDD(D)	S	Digital supply
62	VSS(D)	S	Digital ground
63	SSD	I/TTL	Disables softstart
64	SWITCH	Q/TTL	Output of an I²C Bus controlled switch (register 00, bit SW)

*) The external clock mode can not be used with 18.75, 33.75kHz, 35kHz and 38kHz line frequency.

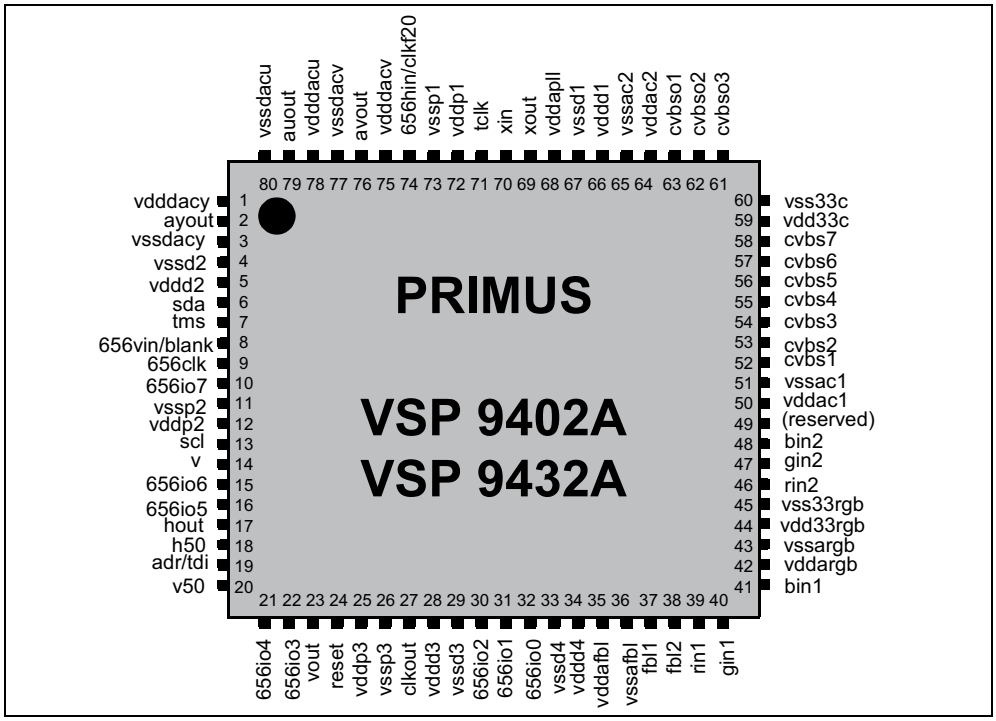
SDA9380 (IC6006)

Pin Configuration



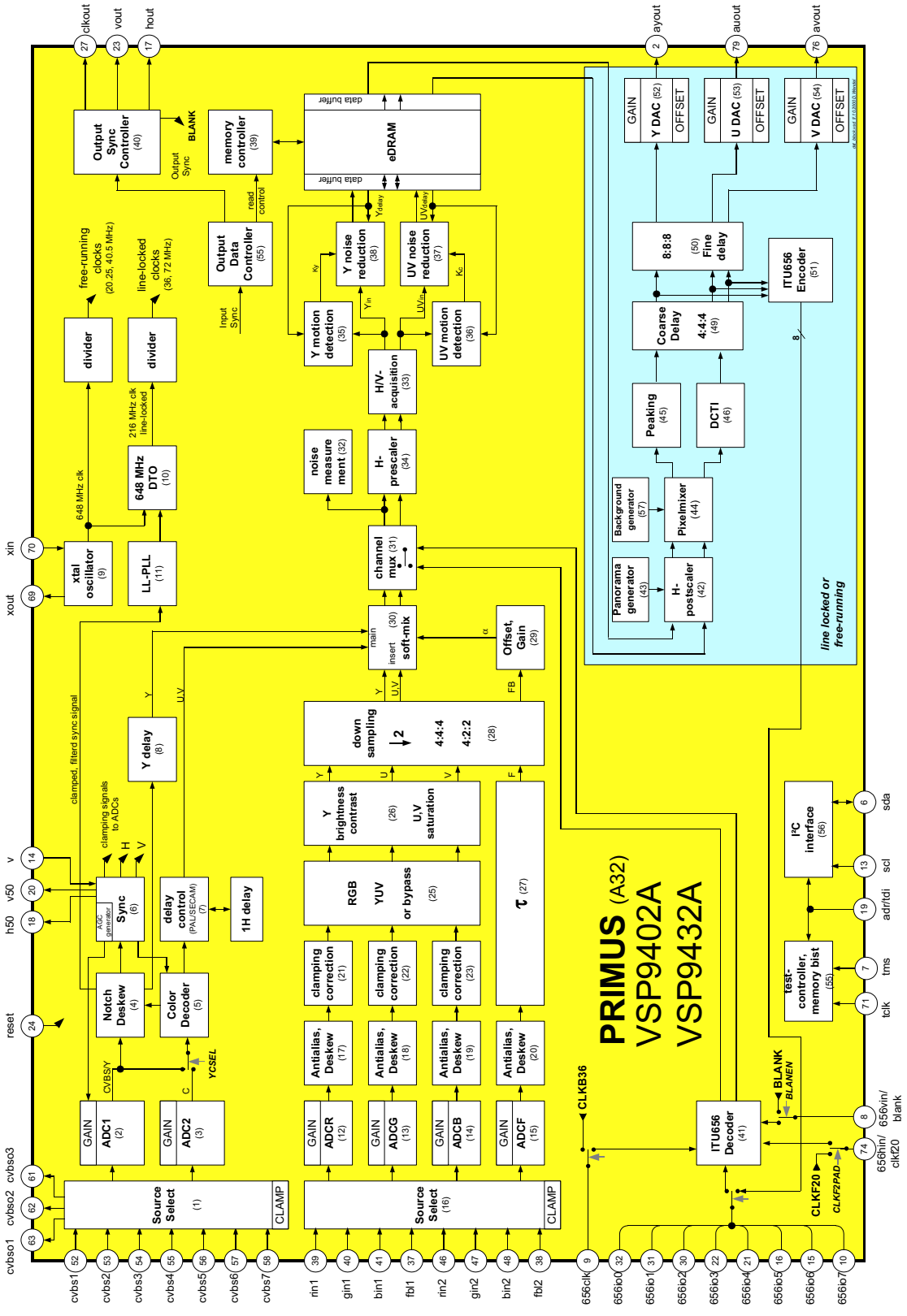
VSP9402A (IC6007)

Pin Configuration



VSP9402A (IC6007)

Block Diagram



VSP9402A (IC6007)

Pin List

pin	9402/32	9412/42	I/O	9402/32	9412/42	remark
52	cvbs1		I	CVBS input		analog input
53	cvbs2		I	CVBS input		analog input
54	cvbs3		I	CVBS input		analog input
55	cvbs4		I	CVBS input or Y1		analog input
56	cvbs5		I	CVBS input or C1		analog input
57	cvbs6		I	CVBS input or Y2		analog input
58	cvbs7		I	CVBS input or C2		analog input
63	cvbso1		O	CVBS output 1 CVBS output 2		analog output
62	cvbso2		O			analog output
61	cvbso3		O	CVBS output 3		analog output
70	xin		I	Crystal connection 1		
69	xout		O	Crystal connection 2		
23	vout		O	vertical output		single or double scan, dependent on version
17	hout		O	horizontal output		
3	vssdacy	i656i7	S/I	DAC (Y)	656 input (MSB)	
2	ayout	i656i6	O/I	Y output	656 input	
1	vdddacy	i656i5	S/I	DAC (Y)	656 input	
80	vssdacu	i656i4	S/I	DAC (U)	656 input	
79	auout	i656i3	O/I	U output	656 input	
78	vdddacu	i656i2	S/I	DAC (U)	656 input	
77	vssdacv	i656i1	S/I	DAC (V)	656 input	
76	avout	i656i0	O/I	V output	656 input (LSB)	
75	vdddacv	i656iclk	S/I	DAC (V)	656 input clock	27 MHz nom.
39	rin1		I	R or V in1		analog input
40	gin1		I	G or Y in1		analog input
41	bin1		I	B of U in1		analog input
37	fbl1		I	Fast Blank input 1 (H1)		analog input
46	rin2		I	R or V in2		analog input
47	gin2		I	G or Y in2		analog input

VSP9402A (IC6007)

Pin List

pin	9402/32	9412/42	I/O	9402/32	9412/42	remark
48	bin2		I	B of U in2		analog input
38	fbl2		I	Fast Blank input 2 (H2)		analog input
14	v[1)]		I	vertical pulse for RGB input		
6	sda		I/O	I²C-Bus data		
13	scl		I	I²C-Bus clk		
7	tms		I	testmode select		connect to vdd33
19	adr / tdi		I	I²C address / test data in		
24	reset		I	Reset input		reset, when low
27	clkout		O	Output clock		27 MHz
59	vdd33c		S	supply voltage CVBS		3.3 V
60	vss33c		S	supply voltage CVBS		0 V
50	vddac1		S	supply voltage CVBS1		1.8 V
51	vssac1		S	supply voltage CVBS1		0 V
64	vddac2		S	supply voltage CVBS2		1.8 V
65	vssac2		S	supply voltage CVBS2		0 V
44	vdd33rgb		S	supply voltage RGB		3.3 V
45	vss33rgb		S	supply voltage RGB		0 V
42	vddargb		S	supply voltage for RGB		1.8 V
43	vssargb		S	supply voltage for RGB		0 V
35	vddafbl		S	supply voltage for FBL		1.8 V
36	vssafbl		S	supply voltage for FBL		0 V
68	vddapll		S	supply voltage for PLL		1.8 V
66	vddd1		S	supply voltage for digital		1.8 V digital
67	vssd1		S	supply voltage for digital		0 V digital
5	vddd2		S	supply voltage for digital		1.8 V digital
4	vssd2		S	supply voltage for digital		0 V digital
28	vddd3		S	supply voltage for DRAM		1.8 V digital
29	vssd3		S	supply voltage for digital		0 V digital
34	vddd4		S	supply voltage for digital		1.8 V digital
33	vssd4		S	supply voltage for digital		0 V digital
72	vddp1		S	supply voltage for digital		3.3 V pad
73	vssp1		S	supply voltage for digital		0 V pad

VSP9402A (IC6007)

Pin List

pin	9402/32	9412/42	I/O	9402/32	9412/42	remark
12	vddp2		S	supply voltage for digital		3.3 V pad
11	vssp2		S	supply voltage for digital		0 V pad
25	vddp3		S	supply voltage for digital		3.3 V pad
26	vssp3		S	supply voltage for digital		0 V pad
71	tclk		I	testclock		connect to vss
18	h50 **2)**		O	Hout 50 Hz		(with skew)
20	v50 **3)**		O	Vout 50 Hz		
32	656io0		I/O	Digital input / output		LSB
31	656io1		I/O	Digital input / output		
30	656io2		I/O	Digital input / output		
22	656io3		I/O	Digital input / output		
21	656io4		I/O	Digital input / output		
16	656io5		I/O	Digital input / output		
15	656io6		I/O	Digital input / output		
10	656io7		I/O	Digital input / output		MSB
9	656clk		I/O	Digital input / output clock		
74	656hin/clkf20		I/O	separate H input for 656 / 20.25 clock output		
8	656vin/blank[4)]		I/O	separate V input for 656 / BLANK output		
49	vssd5 **5)**		S	supply voltage for digital		0V

1) In VSP94xxB and VSP94xxC this pin is shared by v and intr (C800 controller output)

2) In VSP94xxB and VSP94xxC this pin is shared by h50 and irq (Data-slicer-interrupt)

3) In VSP94xxB and VSP94xxC this pin is shared by v50 and blank

4) In 9402 A31 (and higher) and in VSP94xxA/B/C, this pin is shared by 656vin and blank

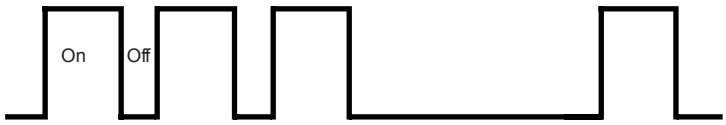
5) This pin is not used and not bonded in VSP94xxA. The use of this pin in VSP94xxB/C will be V_{SS}. For upgradability it is recommended to not leave this pin open.

LED FLASHING CODES

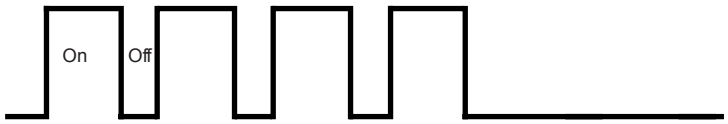
If the TV set does not work and the stereo indicator is flashing, follow the sequence according to the information below, as a guide to fault finding.

1. **Unable to read or write into NVM:** 66% ON, 33% OFF twice and OFF for a second.

2. **MSP failure:** 66% ON, 33% OFF for three times and OFF for a second.

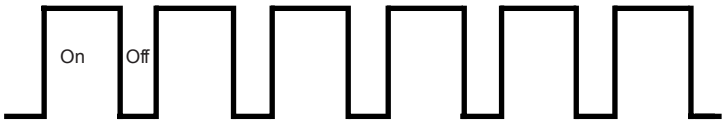


3. **SDA 9380 failure:** 66% ON, 33% OFF for four times and OFF for a second.



4. **SDA 9402 failure:** 66% ON, 33% OFF for five times and OFF for a second.

5. **TDA 9886 failure:** 66% ON, 33% OFF for six times and OFF for a second.



PARTS LISTING

REPLACEMENT PARTS

Replacement parts which have special safety characteristics are identified in this manual. Electrical components having such features are identified by ⚠ in the Replacement Parts Listing.
The use of a substitute replacement part which does not have the same safety characteristics as the factory recommended is not permitted.
Replacement parts not shown in this service manual may create shock fire, or other hazards.

HOW TO ORDER REPLACEMENT PARTS

To have your order completed promptly and correctly please supply the following information.

1. MODEL NUMBER 2. REF. NO.
3. PART NO. 4. DESCRIPTION
5. CODE 6. QUANTITY

MARK *: SPARE PARTS DELIVERY SECTION

	REF No.	PARTS	DESCRIPTION	*	SN CODE	EX CODE
			PICTURE TUBE			
⚠		VB66EAK0714*N	28" A66EAK071X44 100HZ PHIL.BLACK 44% GT	S	CQ	CU
⚠		CCILG0404BMV0	DEG COIL SET NUCTOR 28"	S	AM	AV
		LHLDW1121BMZZ	HOLDER	S	AA	AB
		LHLDW1514BM00	HOLDER UNEX 2233	S	AA	AA
		QEARC0032BMZZ	EARTH WIRE 28" GA-10	S	AC	AH
			PRINTED WIRING BOARDS (Not replacement item)			
		DUNTK7351CJV7	ADJUST CHASSIS 28JS74E/EF	S	BR	CH
		DUNTK7351CJV8	ADJUST CHASSIS 28JS74C	S		
		DUNTK7352BMV3	UNIT CRT 28JS74E/EF	S	AR	BC
		DUNTK7352BMV3	UNIT CRT INS HAND 28JS74E/EF	S	AR	BC
		DUNTK7353BMV2	MOD.100Hz FLICKER FREE TVTEXT PRO28JS74E/E	S	BE	BW
		DUNTK7353BMV3	MOD.100Hz FLICKER FREE TVTEXT PRO28JS74C	S		
	PWB-A		**MOTHER UNIT**			
			TUNER			
	TH 0201	RTUNH0145BMZZ	TUNER UV1316/A I G-3	S	AM	AX
			INTEGRATED CIRCUITS			
	IC 0201	RH-IX1808BMZZ	IC TDA9886TS PHILIPS	S	AG	AS
	IC 0202	RH-IX0037CEZZ	IC UPC574J 33V NEC	S	AF	AD
	IC 0301	VHITDA7480/-1	IC TDA7480 THOMSON	S	AF	AK
	IC 0302	VHITDA7480/-1	IC TDA7480 THOMSON	S	AF	AK
	IC 0303	RH-IX1853BMZZ	IC MSP3410G-QA-B8 MICRONAS	S	AR	BC
	IC 0304	VHIM5218L//-1	IC M5218L	S	AA	AD
	IC 0501	RH-IX1786BMZZ	C.I. TDA 7480L THOMSON	S	AD	AL
	IC 0502	VHIBA4558//-1	IC BA4558 SMD	S	AD	AC
	IC 0503	VHIBA4558//-1	IC BA4558 SMD	S	AD	AC
	IC 0601	VHIBA4558//-1	IC BA4558 SMD	S	AD	AC
	IC 0701	RH-IX1556BMZZ	IC BA10393 S0P8 SMD ROHM	S	AC	AD
	IC 0702	RH-IX1674BMZZ	IC KA431AZ SAMSUNG	S	AA	AD
⚠	IC 0703	RH-FX0113BMZZ	OPTOCOUPLER TCET1103G VISHAY	S	AA	AC
	IC 0704	RH-IX1846BMZZ	IC L4931CV33 ST	S	AB	AF
	IC 0705	RH-IX1674BMZZ	IC KA431AZ SAMSUNG	S	AA	AD
	IC 0706	RH-IX1846BMZZ	IC L4931CV33 ST	S	AB	AF
	IC 0708	RH-IX1878BMZZ	IC LM317T ONSEMI	S	AA	AE
	IC 0709	RH-FX0111BMZZ	OPTOCOUPLER TLP165J TOSHIBA	S	AB	AE
			TRANSISTORS			
	Q 0201	RH-TX0243BMZZ	TRT BC857B PHILIPS	S	AA	AA
	Q 0202	RH-TX0232BMZZ	TRT BC847B SMD PHILIPS	S	AA	AA
	Q 0305	RH-TX0232BMZZ	TRT BC847B SMD PHILIPS	S	AA	AA
	Q 0306	RH-TX0243BMZZ	TRT BC857B PHILIPS	S	AA	AA
	Q 0403	RH-TX0232BMZZ	TRT BC847B SMD PHILIPS	S	AA	AA
	Q 0406	RH-TX0243BMZZ	TRT BC857B PHILIPS	S	AA	AA
	Q 0407	RH-TX0232BMZZ	TRT BC847B SMD PHILIPS	S	AA	AA
	Q 0502	VS2SA1905Y+-1	TRT 2SA1905Y TOSHIBA VERTICAL FLYBACK	S	AB	AF
	Q 0503	RH-TX0239BMZZ	TRT SUD15N06-90L SILICONIX	S	AA	AE
	Q 0505	RH-TX0243BMZZ	TRT BC857B PHILIPS	S	AA	AA
	Q 0601	RH-TX0242BMZZ	TRT BU2527DX PHILIPS	S	AE	AN
	Q 0602	RH-TX0236BMZZ	TRT 2SK2843 TOSHIBA	S	AE	AN
	Q 0603	RH-TX0232BMZZ	TRT BC847B SMD PHILIPS	S	AA	AA
	Q 0604	RH-TX0232BMZZ	TRT BC847B SMD PHILIPS	S	AA	AA
	Q 0605	RH-TX0192BMZZ	TRT KSC2500 SAMSUNG	S	AB	AC
	Q 0606	RH-TX0232BMZZ	TRT BC847B SMD PHILIPS	S	AA	AA
	Q 0607	RH-TX0232BMZZ	TRT BC847B SMD PHILIPS	S	AA	AA
	Q 0608	RH-TX0243BMZZ	TRT BC857B PHILIPS	S	AA	AA
	Q 0609	RH-TX0232BMZZ	TRT BC847B SMD PHILIPS	S	AA	AA
	Q 0611	RH-TX0243BMZZ	TRT BC857B PHILIPS	S	AA	AA
	Q 0613	RH-TX0244BMZZ	TRT 2SK2839 THOSIBA	S	AB	AF
	Q 0614	RH-TX0232BMZZ	TRT BC847B SMD PHILIPS	S	AA	AA
	Q 0701	RH-TX0245BMZZ	TRT 2SK2543 TOSHIBA	S	AB	AG
	Q 0702	RH-TX0245BMZZ	TRT 2SK2543 TOSHIBA	S	AB	AG
	Q 0703	RH-TX0245BMZZ	TRT 2SK2543 TOSHIBA	S	AB	AG
	Q 0704	RH-TX0243BMZZ	TRT BC857B PHILIPS	S	AA	AA
	Q 0705	RH-TX0232BMZZ	TRT BC847B SMD PHILIPS	S	AA	AA
	Q 0706	RH-TX0230BMZZ	TRT BC557C PHILIPS	S	AA	AA
	Q 0707	RH-SX0003BMZZ	TRIAC BT134W-600 PHILIPS	S	AA	AE
	Q 0708	RH-TX0232BMZZ	TRT BC847B SMD PHILIPS	S	AA	AA
	Q 0709	RH-TX0232BMZZ	TRT BC847B SMD PHILIPS	S	AA	AA
	Q 0710	RH-TX0232BMZZ	TRT BC847B SMD PHILIPS	S	AA	AA
	Q 0712	RH-TX0243BMZZ	TRT BC857B PHILIPS	S	AA	AA
	Q 0713	RH-TX0243BMZZ	TRT BC857B PHILIPS	S	AA	AA
	Q 0714	RH-TX0232BMZZ	TRT BC847B SMD PHILIPS	S	AA	AA
	Q 0720	RH-TX0232BMZZ	TRT BC847B SMD PHILIPS	S	AA	AA
	Q 0721	RH-TX0243BMZZ	TRT BC857B PHILIPS	S	AA	AA
	Q 0723	RH-TX0232BMZZ	TRT BC847B SMD PHILIPS	S	AA	AA
	Q 0724	RH-TX0232BMZZ	TRT BC847B SMD PHILIPS	S	AA	AA
	Q 0797	RH-TXA003WJZZ	TRT 2SK2232 MOS TOSHIBA	S	AC	AH
	Q 0901	RH-TX0232BMZZ	TRT BC847B SMD PHILIPS	S	AA	AA
	Q 0902	RH-TX0232BMZZ	TRT BC847B SMD PHILIPS	S	AA	AA
	Q 1002	RH-TX0232BMZZ	TRT BC847B SMD PHILIPS	S	AA	AA
	Q 1003	RH-TX0232BMZZ	TRT BC847B SMD PHILIPS	S	AA	AA
	Q 1004	RH-TX0232BMZZ	TRT BC847B SMD PHILIPS	S	AA	AA
			DIODES			
	D 0201	RH-DX0623BMZZ	DIODE BA591 SMD PHILIPS	S	AA	AB
	D 0202	RH-DX0623BMZZ	DIODE BA591 SMD PHILIPS	S	AA	AB
	D 0203	RH-DX0623BMZZ	DIODE BA591 SMD PHILIPS	S	AA	AB
	D 0302	RH-EX0549BMZZ	ZENER DIODE TZMC7V5 TFK SMD	S	AA	AA
	D 0303	RH-EX0549BMZZ	ZENER DIODE TZMC7V5 TFK SMD	S	AA	AA
	D 0304	RH-EX0549BMZZ	ZENER DIODE TZMC7V5 TFK SMD	S	AA	AA
	D 0305	RH-EX0549BMZZ	ZENER DIODE TZMC7V5 TFK SMD	S	AA	AA
	D 0306	RH-DX0045BMZZ	DIODE 1N4148	S	AA	AA
	D 0309	RH-EX0423BMZZ	ZENER DIODE BZX79C22V	S	AA	AB
	D 0403	RH-EX0549BMZZ	ZENER DIODE TZMC7V5 TFK SMD	S	AA	AA
	D 0404	RH-EX0549BMZZ	ZENER DIODE TZMC7V5 TFK SMD	S	AA	AA
	D 0405	RH-EX0549BMZZ	ZENER DIODE TZMC7V5 TFK SMD	S	AA	AA
	D 0406	RH-EX0543BMZZ	ZENER DIODE TZMC4V3 TFK SMD	S	AA	AA
	D 0407	RH-EX0549BMZZ	ZENER DIODE TZMC7V5 TFK SMD	S	AA	AA
	D 0408	RH-EX0549BMZZ	ZENER DIODE TZMC7V5 TFK SMD	S	AA	AA
	D 0409	RH-EX0549BMZZ	ZENER DIODE TZMC7V5 TFK SMD	S	AA	AA
	D 0410	RH-EX0549BMZZ	ZENER DIODE TZMC7V5 TFK SMD	S	AA	AA
	D 0411	RH-EX0546BMZZ	ZENER DIODE TZMC5V6 TFK SMD	S	AA	AA
	D 0420	RH-EX0546BMZZ	ZENER DIODE TZMC5V6 TFK SMD	S	AA	AA
	D 0421	RH-EX0544BMZZ	ZENER DIODE TZMC4V7 TFK SMD	S	AA	AA
	D 0422	RH-EX0556BMZZ	ZENER DIODO TZMC15 TFK SMD	S	AA	AA
	D 0431	RH-EX0554BMZZ	ZENER DIODE TZMC12 TFK SMD	S	AA	AA
	D 0432	RH-EX0554BMZZ	ZENER DIODE TZMC12 TFK SMD	S	AA	AA
	D 0433	RH-EX0554BMZZ	ZENER DIODE TZMC12 TFK SMD	S	AA	AA
	D 0434	RH-EX0554BMZZ	ZENER DIODE TZMC12 TFK SMD	S	AA	AA
	D 0437	RH-EX0554BMZZ	ZENER DIODE TZMC12 TFK SMD	S	AA	AA
	D 0438	RH-EX0554BMZZ	ZENER DIODE TZMC12 TFK SMD	S	AA	AA
	D 0507	RH-EX0562BMZZ	ZENER DIODE TZMC27 TFK SMD	S	AA	AA
	D 0508	RH-DX0045BMZZ	DIODE 1N4148	S	AA	AA
	D 0510	RH-DX0631BMZZ	DIODE 1N4935 G.SEMICONDUCTOR	S	AA	AA
	D 0511	RH-DX0551BMZZ	DIODE LL4148 TFK SMD	S	AA	AA
	D 0512	RH-EX0564BMZZ	ZENER DIODE TZMC33 TFK SMD	S	AA	AA
	D 0604	RH-DX0551BMZZ	DIODE LL4148 TFK SMD	S	AA	AA
	D 0605	RH-DXA011WJZZ	DIODE SB360 GENERAL	S	AA	AD
	D 0606	RH-DX0045BMZZ	DIODE 1N4148	S	AA	AA
	D 0607	RH-DX0634BMZZ	DIODE RGP02-16E G.SEMICONDUCTOR	S	AA	AB
	D 0608	RH-DX0045BMZZ	DIODE 1N4148	S	AA	AA
	D 0609	RH-DX0518BMZZ	DIODE 1N5819 G.INSTRUMENTS	S	AA	AB
	D 0610	RH-DX0590BMZZ	DIODE MBR1100RL MOTOROLA	S	AD	AE
	D 0611	RH-DX0632BMZZ	DIODE 1N4936 G.SEMICONDUCTOR	S	AA	AA

REF No.	PARTS	DESCRIPTION	*	SN CODE	EX CODE
D 0612	RH-DX0631BMZZ	DIODE 1N4935 G.SEMICONDUCTOR	S	AA	AA
D 0613	RH-DX0631BMZZ	DIODE 1N4935 G.SEMICONDUCTOR	S	AA	AA
D 0615	RH-EX0556BMZZ	ZENER DIODO TZMC15 TFK SMD	S	AA	AA
D 0616	RH-DX0551BMZZ	DIODE LL4148 TFK SMD	S	AA	AA
D 0617	RH-DX0045BMZZ	DIODE 1N4148	S	AA	AA
D 0618	RH-DX0045BMZZ	DIODE 1N4148	S	AA	AA
D 0619	RH-DX0045BMZZ	DIODE 1N4148	S	AA	AA
D 0620	RH-EX0421BMZZ	ZENER DIODE BZX79C18V	S	AA	AA
D 0622	RH-EX0554BMZZ	ZENER DIODE TZMC12 TFK SMD	S	AA	AA
D 0623	RH-EX0544BMZZ	ZENER DIODE TZMC4V7 TFK SMD	S	AA	AA
D 0624	RH-DX0551BMZZ	DIODE LL4148 TFK SMD	S	AA	AA
D 0625	RH-DX0551BMZZ	DIODE LL4148 TFK SMD	S	AA	AA
D 0631	RH-DX0551BMZZ	DIODE LL4148 TFK SMD	S	AA	AA
D 0633	RH-DX0551BMZZ	DIODE LL4148 TFK SMD	S	AA	AA
D 0636	RH-DX0551BMZZ	DIODE LL4148 TFK SMD	S	AA	AA
D 0637	RH-DX0045BMZZ	DIODE 1N4148	S	AA	AA
D 0641	RH-DX0551BMZZ	DIODE LL4148 TFK SMD	S	AA	AA
D 0642	RH-EX0568BMZZ	ZENER DIODE TZMC47 TFK SMD	S	AA	AA
D 0644	RH-DX0551BMZZ	DIODE LL4148 TFK SMD	S	AA	AA
D 0701	RH-DX0641BMZZ	DIODE GPP20J GS	S	AA	AB
D 0702	RH-DX0641BMZZ	DIODE GPP20J GS	S	AA	AB
D 0703	RH-DX0641BMZZ	DIODE GPP20J GS	S	AA	AB
D 0704	RH-DX0641BMZZ	DIODE GPP20J GS	S	AA	AB
D 0707	RH-DX0551BMZZ	DIODE LL4148 TFK SMD	S	AA	AA
D 0708	RH-EX0561BMZZ	ZENER DIODE TZMC24 TFK SMD	S	AA	AA
D 0711	RH-DX0045BMZZ	DIODE 1N4148	S	AA	AA
D 0712	RH-DX0618BMZZ	DIODE BYV28-600 VISHAY PREFOR 17.5MM	S	AA	AE
D 0713	RH-DX0551BMZZ	DIODE LL4148 TFK SMD	S	AA	AA
D 0714	RH-EX0548BMZZ	ZENER DIODE TZMC6V8 TFK SMD	S	AA	AA
D 0715	RH-DX0551BMZZ	DIODE LL4148 TFK SMD	S	AA	AA
D 0716	RH-EX0584BMZZ	ZENER DIODE TZMB6V2 TFK SMD 2%	S	AA	AA
D 0717	RH-DX0045BMZZ	DIODE 1N4148	S	AA	AA
D 0718	RH-DX0045BMZZ	DIODE 1N4148	S	AA	AA
D 0719	RH-DX0621BMZZ	DIODE BYV27/100 VISHAY	S	AA	AC
D 0720	RH-DX0643BMZZ	DIODE SF26 ACPA	S	AA	AC
D 0721	RH-DX0643BMZZ	DIODE SF26 ACPA	S	AA	AC
D 0722	RH-DX0605BMZZ	DIODE MBR340RL MOTOROLA	S	AA	AE
D 0723	RH-EX0550BMZZ	ZENER DIODE TZMC8V2 TFK SMD	S	AA	AA
D 0725	RH-EX0561BMZZ	ZENER DIODE TZMC24 TFK SMD	S	AA	AA
D 0727	RH-DX0621BMZZ	DIODE BYV27/100 VISHAY	S	AA	AC
D 0728	RH-DX0045BMZZ	DIODE 1N4148	S	AA	AA
D 0729	RH-DX0579BMZZ	DIODE 1N4937 ACPA	S	AA	AB
D 0730	RH-EX0584BMZZ	ZENER DIODE TZMB6V2 TFK SMD 2%	S	AA	AA
D 0731	RH-DX0551BMZZ	DIODE LL4148 TFK SMD	S	AA	AA
D 0732	RH-DX0551BMZZ	DIODE LL4148 TFK SMD	S	AA	AA
D 0733	RH-EX0584BMZZ	ZENER DIODE TZMB6V2 TFK SMD 2%	S	AA	AA
D 0734	RH-EX0424BMZZ	ZENER DIODE BZX79C24V	S	AA	AA
D 0735	RH-EX0424BMZZ	ZENER DIODE BZX79C24V	S	AA	AA
D 0736	RH-DX0579BMZZ	DIODE 1N4937 ACPA	S	AA	AB
D 0737	RH-DX0045BMZZ	DIODE 1N4148	S	AA	AA
D 0740	RH-DX0577BMZZ	DIODE 1N4935 ACPA	S	AB	AE
D 0741	RH-EX0543BMZZ	ZENER DIODE TZMC4V3 TFK SMD	S	AA	AA
D 0743	RH-EX0561BMZZ	ZENER DIODE TZMC24 TFK SMD	S	AA	AA
D 0745	RH-DX0643BMZZ	DIODE SF26 ACPA	S	AA	AC
D 0746	RH-DX0045BMZZ	DIODE 1N4148	S	AA	AA
D 0747	RH-EX0544BMZZ	ZENER DIODE TZMC4V7 TFK SMD	S	AA	AA
D 0748	RH-EX0537BMZZ	ZENER DIODE TZMC2V4 TFK SMD	S	AA	AA
D 0750	RH-EX0552BMZZ	ZENER DIODE TZMC10 TFK SMD	S	AA	AA
D 0752	RH-SX0004BMZZ	DIAC BR100/03 PHILIPS	S	AA	AC
D 0753	RH-DX0643BMZZ	DIODE SF26 ACPA	S	AA	AC
D 0798	RH-DX0621BMZZ	DIODE BYV27/100 VISHAY	S	AA	AC
D 0901	RH-DX0551BMZZ	DIODE LL4148 TFK SMD	S	AA	AA
D 0902	RH-EX0554BMZZ	ZENER DIODE TZMC12 TFK SMD	S	AA	AA
D 0903	RH-EX0421BMZZ	ZENER DIODE BZX79C18V	S	AA	AA
D 1001	RH-PX0105BMZZ	LED SPB-25MVW ROHM	S	AC	AC
D 1002	RH-PX0105BMZZ	LED SPB-25MVW ROHM	S	AC	AC
D 1017	RH-EX0480BMZZ	ZENER DIODE BZX79 B5V1 2%	S	AA	AA
D 1018	RH-DX0551BMZZ	DIODE LL4148 TFK SMD	S	AA	AA
D 1019	RH-EX0544BMZZ	ZENER DIODE TZMC4V7 TFK SMD	S	AA	AA
D 1020	RH-EX0544BMZZ	ZENER DIODE TZMC4V7 TFK SMD	S	AA	AA
D 1021	RH-DX0551BMZZ	DIODE LL4148 TFK SMD	S	AA	AA
		PACKAGED CIRCUITS			
X 0201	RCRSB0201BMZZ	CRYSTAL 4 MHZ	S	AK	AM
X 0301	RCRSB0203BMZZ	CRYSTAL 18,432 MHZ	S	AD	AG
POR701	RMPTP0001BMZZ	PTC B59250-C1080-B70	S	AA	AD
		COILS			
L 0202	VP-DF120K0000	PEAK COIL 12UH 10%	S	AA	AA
L 0203	VP-CF6R8K0000	PEAK COIL 6.8UH 10%	S	AA	AA
L 0301	VP-DF100K0000	PEAK COIL 10UH 10%	S	AA	AA
L 0302	VP-XF3R3K0000	PEAK COIL 3.3UH 10% 1/8W	S	AA	AB
L 0315	VP-CF3R3K0000	PEAK COIL 3.3UH 10%	S	AB	AB
L 0316	VP-CF3R3K0000	PEAK COIL 3.3UH 10%	S	AB	AB
L 0318	VP-CF220K0000	PEAK COIL 22UH 10%	S	AA	AA
L 0319	VP-CF220K0000	PEAK COIL 22UH 10%	S	AA	AA
L 0350	VP-CF3R3K0000	PEAK COIL 3.3UH 10%	S	AB	AB
L 0351	VP-CF3R3K0000	PEAK COIL 3.3UH 10%	S	AB	AB
L 0352	RCILP0195CEZZ	COIL LHL08TB680K TAIYO YUDEN	S	AA	AC
L 0353	RCILP0195CEZZ	COIL LHL08TB680K TAIYO YUDEN	S	AA	AC
L 0501	RCILP0271BMZZ	COIL BC-400/K DIEMEN	S	AD	AG
L 0601	VP-CF3R3K0000	PEAK COIL 3.3UH 10%	S	AB	AB
L 0602	VP-CF3R3K0000	PEAK COIL 3.3UH 10%	S	AB	AB
L 0605	RCILZA016WJZZ	LIN. COIL 3128 138 5615.2 PHILIPS GA200	S	AB	AG
L 0606	VP-DF3R3K0000	PEAK COIL 3,3UH 10%	S	AB	AB
L 0609	RCILPA052WJZZ	COIL LHL08TB1R5M TAIYO YUDEN	S	AA	AB
⚠ L 0701	RCILF0108BMZZ	COIL 472839.00 THOMSON	S	AF	AL
L 0702	VP-CF3R3K0000	PEAK COIL 3.3UH 10%	S	AB	AB
L 0705	RCILP0177CEZZ	COIL LHL08TB330K TAIYO YUDEN	S	AA	AB
		CERAMIC FILTERS			
SF 0201	RFILC0278BMZZ	SAW FILTER K3953M SIEMENS	S	AK	AM
SF 0202	RFILC0294BMZZ	SAW FILTER K9456 EPCOS	S	AA	AA
		TRANSFORMERS			
⚠ T 0601	RTRNF2087BMZZ	FBT DIEMEN CHASSIS GA-200	S	AQ	BB
⚠ T 0701	RTRNZ0591BMZZ	CHOPPER CHASSIS GA-100 DIEMEN	S	AE	AN
T 0702	RTRNZ0586BMZZ	BOOST INDUCTOR PFC HR 6R4 15020-00	S	AD	AM
		CAPACITORS			
C 0201	RC-FZ9474BMNJ	POL FILM C 470NF 5% 63V	S	AB	AD
C 0202	VCKYCY1EF104Z	S CHIP TAPE CAP 0.1UF/25V	S	AA	AA
C 0203	VCKYCY1HF223Z	SC CAPACITOR 0.022UF 50V TAPED	S	AA	AA
C 0204	VCEA0A1CW107M	ELEC C 100UF 20% 16V	S	AA	AA
C 0205	RC-FZ9224BMNJ	POL FILM C 220NF 5% 63V	S	AA	AC
C 0206	VCKYCY1HF103Z	CHIP CAP 0.01UF/50V	S	AA	AA
C 0207	VCKYCY1HB152K	GRM39B 152K 50 (1608)SMD CAPACITOR	S	AA	AA
C 0208	VCKYCY1HF103Z	CHIP CAP 0.01UF/50V	S	AA	AA
C 0209	VCKYCY1EF104Z	S CHIP TAPE CAP 0.1UF/25V	S	AA	AA
C 0210	VCKYCY1HF103Z	CHIP CAP 0.01UF/50V	S	AA	AA
C 0211	VCKYCY1HF103Z	CHIP CAP 0.01UF/50V	S	AA	AA
C 0212	VCEA0A1AW477M	E.CAPACITOR 470UF 10V 6.3x11	S	AA	AA
C 0215	RC-FZ9334BMNJ	POL FILM C 330NF 5% 63V	S	AA	AC
C 0218	VCKYCY1HF103Z	CHIP CAP 0.01UF/50V	S	AA	AA
C 0219	VCKYCY1HB391K	S. CHIP CAP 390PF/50V TAPED	S	AA	AA
C 0221	RC-FZ9334BMNJ	POL FILM C 330NF 5% 63V	S	AA	AC
C 0222	VCEAGA0JW107M	ELEC C 100UF 20% 6,3V	S	AA	AA
C 0301	VCEA0A1HW106M	ELEC C 10UF 20% 50V	S	AA	AA
C 0302	VCEA0A1HW106M	ELEC C 10UF 20% 50V	S	AA	AA
C 0303	VCEA0A1CW106M	ELEC C 10UF 20% 16V	S	AA	AA
C 0304	VCEA0A1CW106M	ELEC C 10UF 20% 16V	S	AA	AA
C 0305	VCKYCY1HB102K	S. CHIP CAP 0.001UF/50V	S	AA	AA
C 0306	VCKYCY1HB102K	S. CHIP CAP 0.001UF/50V	S	AA	AA
C 0307	VCKYCY1EF104Z	S CHIP TAPE CAP 0.1UF/25V	S	AA	AA
C 0308	VCEA0A1HW335M	ELEC C 3,3UF 20% 50V	S	AA	AA
C 0309	VCEA0A1AW337M	ELEC C 330UF 20% 10V	S	AA	AA
C 0310	VCKYCY1EF104Z	S CHIP TAPE CAP 0.1UF/25V	S	AA	AA
C 0311	VCEA0A1CW106M	ELEC C 10UF 20% 16V	S	AA	AA
C 0312	VCEA0A1CW106M	ELEC C 10UF 20% 16V	S	AA	AA
C 0313	VCKYCY1HF473Z	S. CHIP CAP 0.047UF/50V	S	AA	AA
C 0316	RC-FZ9334BMNJ	POL FILM C 330NF 5% 63V	S	AA	AC
C 0317	RC-FZ9334BMNJ	POL FILM C 330NF 5% 63V	S	AA	AC
C 0318	RC-FZ9334BMNJ	POL FILM C 330NF 5% 63V	S	AA	AC
C 0319	RC-FZ9334BMNJ	POL FILM C 330NF 5% 63V	S	AA	AC
C 0320	VCEA0A1CW106M	ELEC C 10UF 20% 16V	S	AA	AA
C 0321	VCKYCY1EF104Z	S CHIP TAPE CAP 0.1UF/25V	S	AA	AA
C 0322	VCKYCY1EF104Z	S CHIP TAPE CAP 0.1UF/25V	S	AA	AA
C 0323	VCCCCY1HH470J	S. CHIP CAP 47PF/50V (TAPED)	S	AA	AA
C 0324	VCCCCY1HH470J	S. CHIP CAP 47PF/50V (TAPED)	S	AA	AA

	REF No.	PARTS	DESCRIPTION	*	SN CODE	EX CODE
	C 0325	VCCCCY1HH470J	S. CHIP CAP 47PF/50V (TAPED)	S	AA	AA
	C 0326	VCCCCY1HH5R0C	S. CAPACITOR TAPED	S	AA	AA
	C 0327	VCCCCY1HH5R0C	S. CAPACITOR TAPED	S	AA	AA
	C 0328	VCKYCY1EF104Z	S CHIP TAPE CAP 0.1UF/25V	S	AA	AA
	C 0329	VCKYCY1EF104Z	S CHIP TAPE CAP 0.1UF/25V	S	AA	AA
	C 0330	VCEA0A1AW337M	ELEC C 330UF 20% 10V	S	AA	AA
	C 0337	VCCCCY1HH681J	GRM39CK 681J 50 (1608)SMD CAPACITOR	S	AA	AA
	C 0338	VCKYCY1HB102K	S. CHIP CAP 0.001UF/50V	S	AA	AA
	C 0340	VCCCCY1HH681J	GRM39CK 681J 50 (1608)SMD CAPACITOR	S	AA	AA
	C 0341	VCKYCY1HB102K	S. CHIP CAP 0.001UF/50V	S	AA	AA
	C 0343	VCCCCY1HH681J	GRM39CK 681J 50 (1608)SMD CAPACITOR	S	AA	AA
	C 0344	VCCCCY1HH681J	GRM39CK 681J 50 (1608)SMD CAPACITOR	S	AA	AA
	C 0347	VCKYCY1HB222K	S CHIP CAPACITOR 0.0022UF/50V TAPED	S	AA	AA
	C 0348	VCKYCY1HB222K	S CHIP CAPACITOR 0.0022UF/50V TAPED	S	AA	AA
	C 0350	VCKYCY1EF104Z	S CHIP TAPE CAP 0.1UF/25V	S	AA	AA
	C 0351	VCEA0A1EW227M	ELEC C 220UF 20% 25V	S	AA	AA
	C 0352	RC-FZ9104BMNJ	POL FILM C 100NF 5% 63V	S	AA	AB
	C 0353	VCKYCY1EF104Z	S CHIP TAPE CAP 0.1UF/25V	S	AA	AA
	C 0354	VCCCCY1HH101J	S. CHIP CAP 100PF/50V TAPED	S	AA	AA
	C 0356	RC-FZ9334BMNJ	POL FILM C 330NF 5% 63V	S	AA	AC
	C 0357	VCKYCY1HB102K	S. CHIP CAP 0.001UF/50V	S	AA	AA
	C 0358	VCKYCY1EF104Z	S CHIP TAPE CAP 0.1UF/25V	S	AA	AA
	C 0359	VCKYCY1HB472K	S.CHIP CAP 4700PF/50V T	S	AA	AA
	C 0360	VCKYCY1HB561K	S. CAPACITOR 560PF/50V	S	AA	AA
	C 0361	RC-FZ9474BMNJ	POL FILM C 470NF 5% 63V	S	AB	AD
	C 0362	VCEA0A1HW474M	ELEC C 0,47UF 20% 50V	S	AA	AA
	C 0363	VCEA0A1EW227M	ELEC C 220UF 20% 25V	S	AA	AA
	C 0364	VCKYCY1EF104Z	S CHIP TAPE CAP 0.1UF/25V	S	AA	AA
	C 0365	VCEA0A1EW227M	ELEC C 220UF 20% 25V	S	AA	AA
	C 0366	VCKYCY1EF104Z	S CHIP TAPE CAP 0.1UF/25V	S	AA	AA
	C 0367	VCKYCY1EF104Z	S CHIP TAPE CAP 0.1UF/25V	S	AA	AA
	C 0368	VCKYCY1EF104Z	S CHIP TAPE CAP 0.1UF/25V	S	AA	AA
	C 0369	VCCCCY1HH101J	S. CHIP CAP 100PF/50V TAPED	S	AA	AA
	C 0370	RC-FZ9334BMNJ	POL FILM C 330NF 5% 63V	S	AA	AC
	C 0371	VCKYCY1HB102K	S. CHIP CAP 0.001UF/50V	S	AA	AA
	C 0372	VCEA0A1HW474M	ELEC C 0,47UF 20% 50V	S	AA	AA
	C 0373	VCKYCY1EF104Z	S CHIP TAPE CAP 0.1UF/25V	S	AA	AA
	C 0374	VCKYCY1HB472K	S.CHIP CAP 4700PF/50V T	S	AA	AA
	C 0375	VCKYCY1HB561K	S. CAPACITOR 560PF/50V	S	AA	AA
	C 0376	RC-FZ9474BMNJ	POL FILM C 470NF 5% 63V	S	AB	AD
	C 0377	VCEA0A1HW105M	ELEC C 1UF 20% 50V	S	AA	AA
	C 0378	VCEA0A1EW227M	ELEC C 220UF 20% 25V	S	AA	AA
	C 0379	VCKYCY1EF104Z	S CHIP TAPE CAP 0.1UF/25V	S	AA	AA
	C 0380	VCKYCY1HF103Z	CHIP CAP 0.01UF/50V	S	AA	AA
	C 0381	VCKYCY1HF103Z	CHIP CAP 0.01UF/50V	S	AA	AA
	C 0382	VCKYCY1EF104Z	S CHIP TAPE CAP 0.1UF/25V	S	AA	AA
	C 0383	VCKYCY1HB102K	S. CHIP CAP 0.001UF/50V	S	AA	AA
	C 0384	VCKYCY1HB102K	S. CHIP CAP 0.001UF/50V	S	AA	AA
	C 0385	VCKYCY1CF224Z	S.C.CAP 0.22UF 16V TAPED	S	AA	AA
	C 0386	VCKYCY1CF224Z	S.C.CAP 0.22UF 16V TAPED	S	AA	AA
	C 0387	VCKYCY1EF104Z	S CHIP TAPE CAP 0.1UF/25V	S	AA	AA
	C 0403	VCKYCY1HF103Z	CHIP CAP 0.01UF/50V	S	AA	AA
	C 0417	VCEA0A1CW476M	ELEC C 47UF 20% 16V	S	AA	AA
	C 0422	VCEA0A1AW227M	ELEC C 220UF 20% 10V	S	AA	AA
	C 0502	VCKYCY1CF474Z	GRM39F 474Z 16 (1608)SMD CAPACITOR	S	AA	AA
	C 0503	VCCCCY1HH101J	S. CHIP CAP 100PF/50V TAPED	S	AA	AA
	C 0504	RC-FZ9224BMNJ	POL FILM C 220NF 5% 63V	S	AA	AC
	C 0505	VCKYCY1EF104Z	S CHIP TAPE CAP 0.1UF/25V	S	AA	AA
	C 0506	VCKYCY1EF104Z	S CHIP TAPE CAP 0.1UF/25V	S	AA	AA
	C 0507	VCKYCY1HB472K	S.CHIP CAP 4700PF/50V T	S	AA	AA
	C 0508	VCKYCY1HB561K	S. CAPACITOR 560PF/50V	S	AA	AA
	C 0510	VCKYCY1CF334Z	S. CHIP CAP. 0.33UF/16V TAPED	S	AA	AA
	C 0511	VCEA0A1HW225M	ELEC C 2,2UF 20% 50V	S	AA	AA
	C 0520	VCEA0A1VW477M	ELEC C 470uF 35V	S	AA	AB
	C 0522	VCKYCY1EF104Z	S CHIP TAPE CAP 0.1UF/25V	S	AA	AA
	C 0524	RC-FZ9683BMNJ	POL FILM C 68NF 5% 63V	S	AA	AB
	C 0525	VCKYCY1HF473Z	S. CHIP CAP 0.047UF/50V	S	AA	AA
	C 0526	VCEA0A1EW108M	ELEC C 1000UF 20% 25V	S	AA	AC
	C 0534	VCKYCY1HB102K	S. CHIP CAP 0.001UF/50V	S	AA	AA
	C 0535	VCEA0A1VW108M	ELEC C 1000UF 20% 35V	S	AA	AD
	C 0540	VCKYCY1HB332K	s.chip cap 3300pf /50v	S	AA	AA
	C 0541	VCCCCY1HH331J	GRM39CK 331J 50 (1608)SMD CAPACITOR	S	AA	AA
	C 0601	RC-FZA076WJZZ	C PP 12NF 2KV B32683-A2123J EPCOS	S	AB	AE
	C 0602	RC-FZ0242BMZZ	PP C 6N8 630V 15mm 2222 375 14682 BC	S	AA	AC

	REF No.	PARTS	DESCRIPTION	*	SN CODE	EX CODE
	C 0603	RC-FZ9473BMNJ	POL FILM C 47NF 5% 63V	S	AA	AC
	C 0604	VCCCCY1HH391J	GRM39CK 391J 50 (1608)SMD CAPACITOR	S	AA	AA
	C 0605	VCKYCY1HB222K	S CHIP CAPACITOR 0.0022UF/50V TAPED	S	AA	AA
	C 0606	VCKYCY1AB224K	GRM39B 224K 10 (1608)SMD CAPACITOR	S	AA	AA
	C 0607	VCCCCY1HH220J	S. CHIP CAP 22PF/50V TAPED	S	AA	AA
	C 0608	VCKYTV1HB104K	CERAM C 100NF 50V 2125SMD	S	AA	AA
	C 0609	RC-EZ0729CEZZ	ELEC C 470NF 10V RUBYCON 10YXG470MKC	S	AA	AC
	C 0610	VCKYCY1HB102K	S. CHIP CAP 0.001UF/50V	S	AA	AA
	C 0612	VCCCCY1HH681J	GRM39CK 681J 50 (1608)SMD CAPACITOR	S	AA	AA
	C 0613	RC-FZ9474BMNJ	POL FILM C 470NF 5% 63V	S	AB	AD
	C 0617	RC-FZ0240BMZZ	CPP 180NF 400V 15mm B32652-A4184-J EPCOS	S	AA	AC
	C 0618	VCEA0A1CW227M	E CAPACITOR 220UF 16V 6.3x11	S	AA	AB
	C 0619	RC-FZ0198BMZZ	POL C 100NF 10% 250V 222236545104 BC	S	AA	AB
	C 0620	VCKYPA2HB222K	CERAM C 2,2NF 10% 500V	S	AA	AB
	C 0621	VCKYPA2HB222K	CERAM C 2,2NF 10% 500V	S	AA	AB
	C 0624	RC-FZ0241BMZZ	CPP 220NF 400V 15mm B32652-A4224-J EPCOS	S	AA	AC
	C 0625	VCKYPA2HB102K	CERAM C 1NF 10% 500V	S	AA	AA
	C 0626	VCEA0A1HW106M	ELEC C 10UF 20% 50V	S	AA	AA
	C 0627	VCCSPA2HL560K	CERAM C 56PF 10% 500V	S	AA	AA
	C 0628	RC-FZ0216BMZZ	POL C 330PF 2KV 222237544331 BC	S	AA	AC
	C 0629	VCKYCY1HF683Z	GRM39F 683Z 50 (1608)SMD CAPACITOR	S	AA	AA
	C 0630	RC-FZ9223BMNJ	POL FILM C 22NF 5% 63V	S	AA	AB
	C 0631	VCKYCY1HB222K	S CHIP CAPACITOR 0.0022UF/50V TAPED	S	AA	AA
	C 0632	VCCCCY1HH220J	S. CHIP CAP 22PF/50V TAPED	S	AA	AA
	C 0634	RC-EZA086WJZZ	ELEC C 10uF 250V 105º YXA RUBYCON	S	AA	AC
	C 0635	VCCCCY1HH680J	S. CHIP CAP 68PF/50V TAPED	S	AA	AA
	C 0636	VCEA0A1EW107M	E. CAPACITOR 100UF 25V 6.3x11	S	AA	AA
	C 0637	VCEA0A1EW107M	E. CAPACITOR 100UF 25V 6.3x11	S	AA	AA
	C 0639	VCKYPA2HB102K	CERAM C 1NF 10% 500V	S	AA	AA
	C 0640	RC-EZ0729CEZZ	ELEC C 470NF 10V RUBYCON 10YXG470MKC	S	AA	AC
	C 0641	VCKYCY1CF474Z	GRM39F 474Z 16 (1608)SMD CAPACITOR	S	AA	AA
⚠	C 0701	RC-FZ0219BMZZ	C 470NF 275V X2 B81130-C1474-M SIEMENS	S	AA	AD
	C 0702	RC-KZ0029CEZZ	CERAM C 10NF 80,20% 250V	S	AC	AC
	C 0703	RC-KZ0029CEZZ	CERAM C 10NF 80,20% 250V	S	AC	AC
	C 0704	RC-KZ0029CEZZ	CERAM C 10NF 80,20% 250V	S	AC	AC
	C 0705	RC-FZ0205BMZZ	PP FILM C 4N7 630V 2222 375 16472 BC	S	AA	AB
	C 0706	RC-FZ7684BMNJ	PP FILM C 680NF 5% 400V	S	AE	AH
	C 0707	VCEA0A1EW107M	E. CAPACITOR 100UF 25V 6.3x11	S	AA	AA
	C 0708	VCKYCY1EF104Z	S CHIP TAPE CAP 0.1UF/25V	S	AA	AA
	C 0709	VCEA0A1HW106M	ELEC C 10UF 20% 50V	S	AA	AA
	C 0710	RC-FZ9223BMNJ	POL FILM C 22NF 5% 63V	S	AA	AB
	C 0712	VCEAGA2CW105M	ELEC C 1UF 20% 160V	S	AA	AB
	C 0713	RC-EZA036WJZZ	ELEC C 68uF 450V CHEMI-CON KMK 18x35,5	S	AD	AL
	C 0714	VRS-CY1JF681J	S. CHIP RES. 680-OHM TAPED	S	AA	AA
	C 0715	VCKYCY1HF683Z	GRM39F 683Z 50 (1608)SMD CAPACITOR	S	AA	AA
	C 0716	VCKYCY1CF474Z	GRM39F 474Z 16 (1608)SMD CAPACITOR	S	AA	AA
	C 0717	RC-FZ9103BMNJ	POL FILM C 10NF 5% 63V	S	AA	AB
	C 0718	VCCCCY1HH471J	GRM39CK 471J 50 (1608)SMD CAPACITOR	S	AA	AA
	C 0719	VCKYCY1EF104Z	S CHIP TAPE CAP 0.1UF/25V	S	AA	AA
	C 0720	VCEA0A1EW106M	ELEC C 10UF 20% 25V	S	AA	AA
	C 0721	RC-FZ9103BMNJ	POL FILM C 10NF 5% 63V	S	AA	AB
	C 0722	VCKYCY1EB273K	GRM39B 273K 25 (1608)SMD CAPACITOR	S	AA	AA
	C 0723	VCCCCY1HH471J	GRM39CK 471J 50 (1608)SMD CAPACITOR	S	AA	AA
	C 0724	VCKYCY1EF104Z	S CHIP TAPE CAP 0.1UF/25V	S	AA	AA
	C 0725	RC-FZ0205BMZZ	PP FILM C 4N7 630V 2222 375 16472 BC	S	AA	AB
	C 0726	VCEA0A1EW228M	ELEC C 2200UF 20% 25V	S	AA	AD
	C 0727	VCEA0A1EW228M	ELEC C 2200UF 20% 25V	S	AA	AD
	C 0728	RC-EZA035WJZZ	ELEC C 100UF 200V LOW INPEDANCE	S	AB	AF
	C 0729	VCEAGA0JW477M	ELEC C 470UF 20% 6,3V	S	AA	AA
	C 0730	VCKYPA2HB271K	CERAM C 270PF 10% 500V	S	AA	AA
	C 0731	VCKYCY1EF104Z	S CHIP TAPE CAP 0.1UF/25V	S	AA	AA
	C 0732	VCEA0A1EW108M	ELEC C 1000UF 20% 25V	S	AA	AC
	C 0733	RC-EZ0753CEZZ	ELEC C 470NF 35V RUBYCON 35YXG470MKC	S	AA	AC
	C 0734	VCEA0A1CW476M	ELEC C 47UF 20% 16V	S	AA	AA
	C 0735	VCEAGA0JW477M	ELEC C 470UF 20% 6,3V	S	AA	AA
	C 0736	VCKYCY1EF104Z	S CHIP TAPE CAP 0.1UF/25V	S	AA	AA
	C 0737	VCEA0A1EW108M	ELEC C 1000UF 20% 25V	S	AA	AC
	C 0738	RC-FZ9563BMNJ	POL FILM C 56NF 5% 63V	S	AA	AC
	C 0739	VCKYCY1EF104Z	S CHIP TAPE CAP 0.1UF/25V	S	AA	AA
	C 0740	VCCCCY1HH221J	S. CHIP CAP 220PF/50V TAPED	S	AA	AA
	C 0741	VCKYCY1CF474Z	GRM39F 474Z 16 (1608)SMD CAPACITOR	S	AA	AA
	C 0742	VCEA0A1HW226M	ELEC C 22UF 20% 50V	S	AA	AA
	C 0743	VCKYCY1EF104Z	S CHIP TAPE CAP 0.1UF/25V	S	AA	AA
⚠	C 0746	RC-FZ0188BMZZ	C B81130-C1334-M 330NF 275V X2 SIEMENS	S	AA	AD

	REF No.	PARTS	DESCRIPTION	*	SN CODE	EX CODE
	C 0748	VCEA0A1VW227M	ELEC C 220UF 20% 35V	S	AA	AA
	C 0749	VCKYTV1CF105Z	CERAM C 1UF 16V 2125SMD	S	AA	AA
	C 0751	VCEA0A1HW105M	ELEC C 1UF 20% 50V	S	AA	AA
	C 0752	VCEA0A1CW106M	ELEC C 10UF 20% 16V	S	AA	AA
⚠	C 0753	RC-FZ0192BMZZ	C 330NF 275V X2 222233820334 PHILIPS	S	AA	AD
	C 0754	VCCCCY1HH101J	S. CHIP CAP 100PF/50V TAPED	S	AA	AA
	C 0755	VCKYCY1HB102K	S. CHIP CAP 0.001UF/50V	S	AA	AA
	C 0756	VCKYCY1EF104Z	S CHIP TAPE CAP 0.1UF/25V	S	AA	AA
	C 0796	RC-KZ0031CEZZ	CERAM C 100PF 2KV	S	AA	AB
	C 0798	RC-KZ0035CEZZ	CERAM C 220PF 2KV	S	AA	AC
⚠	C 0799	RC-KZ0106GEZZ	CERAM C DE1410 E332M-KX	S	AB	AC
	C 0902	VCEA0A1HW226M	ELEC C 22UF 20% 50V	S	AA	AA
	C 0903	VCEA0A1EW476M	ELEC C 47UF 20% 25V	S	AA	AA
	C 0904	VCKYTV1CF105Z	CERAM C 1UF 16V 2125SMD	S	AA	AA
	C 0905	VCKYCY1CF474Z	GRM39F 474Z 16 (1608)SMD CAPACITOR	S	AA	AA
	C 1022	VCEA0A1HW106M	ELEC C 10UF 20% 50V	S	AA	AA
	C 1031	VCEAGA0JW337M	ELEC C 330UF 20% 6,3V	S	AA	AA
	C 1043	VCKYCY1HB102K	S. CHIP CAP 0.001UF/50V	S	AA	AA
	C 1044	VCKYCY1HB102K	S. CHIP CAP 0.001UF/50V	S	AA	AA
	C 1045	VCCCCY1HH101J	S. CHIP CAP 100PF/50V TAPED	S	AA	AA
	C 1046	VCCCCY1HH101J	S. CHIP CAP 100PF/50V TAPED	S	AA	AA
	C 1049	VCKYCY1HB102K	S. CHIP CAP 0.001UF/50V	S	AA	AA
	C 3313	VCKYCY1HB102K	S. CHIP CAP 0.001UF/50V	S	AA	AA
			RESISTORS			
	R 0201	VRS-CY1JF104J	S. CHIP RES. 100K-OHM TAPED	S	AA	AA
	R 0202	VRD-RA2BE101J	RES 100 OHM 5% 1/8W	S	AA	AA
	R 0203	VRD-RA2BE101J	RES 100 OHM 5% 1/8W	S	AA	AA
	R 0204	VRS-CY1JF223J	S.CHOP REG 22K-OHM T	S	AA	AA
	R 0205	VRS-CY1JF221J	S. CHIP RES. 220-OHM TAPED	S	AA	AA
	R 0206	VRS-CY1JF562J	S. CHIP RES. 5.6K-OHM TAPED	S	AA	AA
	R 0207	VRS-CY1JF151J	S CHIP RES. 150-OHM TAPED	S	AA	AA
	R 0208	VRD-RA2BE223J	RES 22KOHM 5% 1/8W	S	AA	AA
	R 0209	VRS-CY1JF682J	S. CHIP RES. 6.8 K OHM TAPED	S	AA	AA
	R 0210	VRS-CY1JF101J	S. CHIP RES. 100-OHM TAPED	S	AA	AA
	R 0211	VRS-CY1JF682J	S. CHIP RES. 6.8 K OHM TAPED	S	AA	AA
	R 0212	VRS-CY1JF223J	S.CHOP REG 22K-OHM T	S	AA	AA
	R 0213	VRD-RA2HD183J	RES 18KOHM 5% 1/2W	S	AA	AA
	R 0214	VRD-RA2HD183J	RES 18KOHM 5% 1/2W	S	AA	AA
	R 0215	VRD-RA2HD822J	RES 8,2KOHM 5% 1/2W	S	AA	AA
	R 0221	VRS-CY1JF684J	S. CHIP RES. 680K-OHM TAPED	S	AA	AA
	R 0222	VRS-CY1JF224J	S. CHIP RES. 220K-OHM TAPED	S	AA	AA
	R 0223	VRD-RA2HD100J	RES 10 OHM 5% 1/2W	S	AA	AA
	R 0230	VRS-CY1JF223J	S.CHOP REG 22K-OHM T	S	AA	AA
	R 0231	VRS-CY1JF271J	S.CHIP RESIS. 270OHM TAPED	S	AA	AA
	R 0301	VRD-RA2BE101J	RES 100 OHM 5% 1/8W	S	AA	AA
	R 0302	VRD-RA2BE101J	RES 100 OHM 5% 1/8W	S	AA	AA
	R 0303	VRD-RA2BE101J	RES 100 OHM 5% 1/8W	S	AA	AA
	R 0304	VRD-RA2BE101J	RES 100 OHM 5% 1/8W	S	AA	AA
	R 0305	VRS-CY1JF104J	S. CHIP RES. 100K-OHM TAPED	S	AA	AA
	R 0306	VRS-CY1JF104J	S. CHIP RES. 100K-OHM TAPED	S	AA	AA
	R 0307	VRS-CY1JF472J	S. RES. 4.7K OHM TAPED	S	AA	AA
	R 0308	VRS-CY1JF101J	S. CHIP RES. 100-OHM TAPED	S	AA	AA
	R 0309	VRS-CY1JF101J	S. CHIP RES. 100-OHM TAPED	S	AA	AA
	R 0310	VRS-CY1JF104J	S. CHIP RES. 100K-OHM TAPED	S	AA	AA
	R 0311	VRS-CY1JF104J	S. CHIP RES. 100K-OHM TAPED	S	AA	AA
	R 0312	VRS-CY1JF104J	S. CHIP RES. 100K-OHM TAPED	S	AA	AA
	R 0313	VRS-CY1JF104J	S. CHIP RES. 100K-OHM TAPED	S	AA	AA
	R 0318	VRS-CY1JF101J	S. CHIP RES. 100-OHM TAPED	S	AA	AA
	R 0319	VRS-CY1JF271J	S.CHIP RESIS. 270OHM TAPED	S	AA	AA
	R 0320	VRS-CY1JF101J	S. CHIP RES. 100-OHM TAPED	S	AA	AA
	R 0321	VRS-CY1JF271J	S.CHIP RESIS. 270OHM TAPED	S	AA	AA
	R 0322	VRS-CY1JF101J	S. CHIP RES. 100-OHM TAPED	S	AA	AA
	R 0323	VRS-CY1JF101J	S. CHIP RES. 100-OHM TAPED	S	AA	AA
	R 0324	VRS-CY1JF101J	S. CHIP RES. 100-OHM TAPED	S	AA	AA
	R 0325	VRS-CY1JF101J	S. CHIP RES. 100-OHM TAPED	S	AA	AA
	R 0326	VRS-CY1JF104J	S. CHIP RES. 100K-OHM TAPED	S	AA	AA
	R 0327	VRS-CY1JF104J	S. CHIP RES. 100K-OHM TAPED	S	AA	AA
	R 0328	VRS-CY1JF151J	S CHIP RES. 150-OHM TAPED	S	AA	AA
	R 0329	VRS-CY1JF151J	S CHIP RES. 150-OHM TAPED	S	AA	AA
	R 0330	VRS-CY1JF100J	S CHIP RESISTOR 10 OHM	S	AA	AA
	R 0331	VRS-CY1JF272J	S. CHIP RES. 2.7K-OHM TAPED	S	AA	AA
	R 0332	VRS-CY1JF272J	S. CHIP RES. 2.7K-OHM TAPED	S	AA	AA
	R 0333	VRS-CY1JF102J	S.CHIP RES TAPE 1K OHM	S	AA	AA

	REF No.	PARTS	DESCRIPTION	*	SN CODE	EX CODE
	R 0334	VRS-CY1JF102J	S.CHIP RES TAPE 1K OHM	S	AA	AA
	R 0335	VRS-CY1JF104J	S. CHIP RES. 100K-OHM TAPED	S	AA	AA
	R 0336	VRS-CY1JF104J	S. CHIP RES. 100K-OHM TAPED	S	AA	AA
	R 0337	VRD-RA2BE100J	RES 10 OHM 5% 1/8W	S	AA	AA
	R 0350	VRS-CY1JF222J	S. CHIP RES. 2.2K-OHM TAPED	S	AA	AA
	R 0351	VRS-CY1JF273J	S. CHIP RES. 27-OHM TAPED	S	AA	AA
	R 0352	VRS-CY1JF123J	S CHIP RES. 12K-OHM TAPED	S	AA	AA
	R 0353	VRS-CY1JF151J	S CHIP RES. 150-OHM TAPED	S	AA	AA
	R 0355	VRD-RA2BE273J	RES 27KOHM 5% 1/8W	S	AA	AA
	R 0356	VRS-CY1JF103J	S.C. RESISTOR 10K OHM	S	AA	AA
	R 0357	VRS-CY1JF151J	S CHIP RES. 150-OHM TAPED	S	AA	AA
	R 0358	VRD-RA2BE104J	RES 100KOHM 5% 1/8W	S	AA	AA
	R 0359	VRD-RA2BE104J	RES 100KOHM 5% 1/8W	S	AA	AA
	R 0360	VRS-CY1JF104J	S. CHIP RES. 100K-OHM TAPED	S	AA	AA
	R 0362	VRS-CY1JF223J	S.CHOP REG 22K-OHM T	S	AA	AA
	R 0369	VRS-CY1JF103J	S.C. RESISTOR 10K OHM	S	AA	AA
	R 0370	VRS-CY1JF103J	S.C. RESISTOR 10K OHM	S	AA	AA
	R 0374	VRS-CY1JF153J	S CHIP RES. 15K-OHM TAPED	S	AA	AA
	R 0375	VRS-CY1JF153J	S CHIP RES. 15K-OHM TAPED	S	AA	AA
	R 0380	VRS-CY1JF183J	S. CHIP RES. 18K-OHM TAPED	S	AA	AA
	R 0382	VRS-CY1JF183J	S. CHIP RES. 18K-OHM TAPED	S	AA	AA
	R 0384	VRS-CY1JF223J	S.CHOP REG 22K-OHM T	S	AA	AA
	R 0385	VRS-CY1JF105J	S.CHIP TAPE RES 1M OHM	S	AA	AA
	R 0387	VRD-RA2BE101J	RES 100 OHM 5% 1/8W	S	AA	AA
	R 0406	VRS-TQ2BD750J	OX RE 75 OHM 5% 1/8W SMD	S	AA	AA
	R 0407	VRS-CY1JF750J	S CHIP RESISTOR 75 OHM	S	AA	AA
	R 0408	VRS-CY1JF332J	S. CHIP RES. 3.3K-OHM TAPED	S	AA	AA
	R 0409	VRS-CY1JF183J	S. CHIP RES. 18K-OHM TAPED	S	AA	AA
	R 0410	VRS-CY1JF332J	S. CHIP RES. 3.3K-OHM TAPED	S	AA	AA
	R 0411	VRS-CY1JF183J	S. CHIP RES. 18K-OHM TAPED	S	AA	AA
	R 0413	VRD-RA2BE680J	RES 68 OHM 5% 1/8W	S	AA	AA
	R 0414	VRD-RA2BE102J	RES 1KOHM 5% 1/8W	S	AA	AA
	R 0415	VRD-RA2BE750J	RES 75 OHM 5% 1/8W	S	AA	AA
	R 0416	VRD-RA2BE750J	RES 75 OHM 5% 1/8W	S	AA	AA
	R 0417	VRD-RA2BE750J	RES 75 OHM 5% 1/8W	S	AA	AA
	R 0418	VRS-CY1JF750J	S CHIP RESISTOR 75 OHM	S	AA	AA
	R 0419	VRS-CY1JF750J	S CHIP RESISTOR 75 OHM	S	AA	AA
	R 0420	VRS-CY1JF750J	S CHIP RESISTOR 75 OHM	S	AA	AA
	R 0421	VRS-CY1JF820J	RES 0603 82 OHM 5% 1/10W SMD	S	AA	AA
	R 0422	VRS-CY1JF221J	S. CHIP RES. 220-OHM TAPED	S	AA	AA
	R 0437	VRS-CY1JF221J	S. CHIP RES. 220-OHM TAPED	S	AA	AA
	R 0438	VRS-CY1JF471J	S. CHIP RES. 470-OHM TAPED	S	AA	AA
	R 0439	VRS-CY1JF101J	S. CHIP RES. 100-OHM TAPED	S	AA	AA
	R 0440	VRS-CY1JF102J	S.CHIP RES TAPE 1K OHM	S	AA	AA
	R 0441	RR-XZ0112BMZZ	FUS RES 10R TAP 5% 1/3W	S	AA	AB
	R 0451	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	R 0452	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	R 0501	VRS-VV3DB151J	MET OX RES 150 OHM 5% 2W	S	AA	AA
	R 0502	VRS-CY1JF472F	S.CHIP RESISTOR 4.7K OHM 1%	S	AA	AA
	R 0503	VRD-RA2BE102F	RES 1KOHM 1% 1/8W	S	AA	AA
	R 0504	VRS-CY1JF102J	S.CHIP RES TAPE 1K OHM	S	AA	AA
	R 0505	VRD-RA2BE221J	RES 220 OHM 5% 1/8W	S	AA	AA
	R 0506	VRS-CY1JF102J	S.CHIP RES TAPE 1K OHM	S	AA	AA
	R 0509	VRD-RA2BE393J	RES 39KOHM 5% 1/8W	S	AA	AA
	R 0510	VRS-CY1JF822J	S. CHIP RES. 8.2K-OHM TAPED	S	AA	AA
	R 0511	VRS-TQ2BD151J	OX RE 150 OHM 5% 1/8W SMD	S	AA	AA
	R 0512	VRS-CY1JF472F	S.CHIP RESISTOR 4.7K OHM 1%	S	AA	AA
	R 0513	VRS-CY1JF104J	S. CHIP RES. 100K-OHM TAPED	S	AA	AA
	R 0514	VRS-CY1JF561J	S. CHIP RES 560-OHM TAPED	S	AA	AA
	R 0515	VRS-CY1JF122J	S. RESISTOR 1.2K OHM	S	AA	AA
	R 0516	VRS-CY1JF102F	CHIP RESISTOR 1% 1K	S	AA	AA
	R 0518	VRN-VV3DB1R0J	MET FILM R 1 OHM 5% 2W	S	AA	AA
	R 0526	VRS-CY1JF123J	S CHIP RES. 12K-OHM TAPED	S	AA	AA
	R 0530	RR-XZ0208BMZZ	FUS RES 4R7 TAP 5% 1/2W	S	AA	AA
	R 0531	VRS-CY1JF225J	S. CHIP RES. 2.2M OHM TAPED	S	AA	AA
	R 0534	VRS-CY1JF273J	S. CHIP RES. 27-OHM TAPED	S	AA	AA
	R 0535	VRS-CY1JF682J	S. CHIP RES. 6.8 K OHM TAPED	S	AA	AA
	R 0536	VRS-CY1JF472J	S. RES. 4.7K OHM TAPED	S	AA	AA
	R 0537	VRS-CY1JF472J	S. RES. 4.7K OHM TAPED	S	AA	AA
	R 0544	VRS-CY1JF102J	S.CHIP RES TAPE 1K OHM	S	AA	AA
	R 0545	VRS-CY1JF104J	S. CHIP RES. 100K-OHM TAPED	S	AA	AA
	R 0548	VRS-CY1JF682J	S. CHIP RES. 6.8 K OHM TAPED	S	AA	AA
	R 0549	VRS-CY1JF273J	S. CHIP RES. 27-OHM TAPED	S	AA	AA
	R 0553	RR-XZ0101BMZZ	FUS RES 1R2 TAP 5% 1/3W	S	AA	AB

REF No.	PARTS	DESCRIPTION	*	SN CODE	EX CODE
R 0554	VRS-CY1JF101J	S. CHIP RES. 100-OHM TAPED	S	AA	AA
R 0555	RR-XZ0208BMZZ	FUS RES 4R7 TAP 5% 1/2W	S	AA	AA
R 0601	VRS-VV3DB560J	MET OX RES 56 OHM 5% 2W	S	AA	AA
R 0603	VRN-KT3LB2R2J	RES MF 2,2 OHM 3W RNS3FB NOBLE	S	AA	AE
R 0604	VRS-CY1JF181J	S CHIP RES. 180-OHM TAPED	S	AA	AA
R 0605	VRS-CY1JF561J	S. CHIP RES 560-OHM TAPED	S	AA	AA
R 0607	VRS-CY1JF222J	S. CHIP RES. 2.2K-OHM TAPED	S	AA	AA
R 0608	VRS-TV1JD222J	2125 2,2KOHM 5% 1/10W SMD	S	AA	AA
R 0609	VRN-LU3DB1R0J	SET MET FILM 1 OHM 5% 2W LW	S	AA	AB
R 0610	VRS-CY1JF680J	S. RES. 68 OHM TAPED	S	AA	AA
R 0611	VRD-RA2HD220J	RES 22 OHM 5% 1/2W	S	AA	AA
R 0612	VRD-RA2HD222J	RES 2,2KOHM 5% 1/2W	S	AA	AA
R 0614	VRD-RA2HD123J	RES 12KOHM 5% 1/2W	S	AA	AA
R 0616	VRS-CY1JF100J	S CHIP RESISTOR 10 OHM	S	AA	AA
R 0617	RR-XZ0204BMZZ	FUS RES 2R2 TAP 5% 1/2W	S	AA	AB
R 0620	VRS-TV1JD472J	2125 4.7KOHM 5% 1/10W SMD	S	AA	AA
R 0621	VRS-CY1JF561J	S. CHIP RES 560-OHM TAPED	S	AA	AA
R 0622	VRS-CY1JF152J	S. CHIP RES. 1.5K-OHM	S	AA	AA
R 0623	VRS-CY1JF222J	S. CHIP RES. 2.2K-OHM TAPED	S	AA	AA
R 0626	VRS-CY1JF101J	S. CHIP RES. 100-OHM TAPED	S	AA	AA
R 0627	VRD-RA2HD823J	RES 82KOHM 5% 1/2W	S	AA	AA
R 0629	VRS-CY1JF474J	S. CHIP RES. 4.7K-OHM	S	AA	AA
R 0630	VRS-CY1JF682J	S. CHIP RES. 6.8 K OHM TAPED	S	AA	AA
R 0631	VRS-CY1JF334J	S. CHIP RES. 330K-OHM TAPED	S	AA	AA
R 0632	VRS-CY1JF681J	S. CHIP RES. 680-OHM TAPED	S	AA	AA
R 0633	VRS-CY1JF102J	S.CHIP RES TAPE 1K OHM	S	AA	AA
R 0634	VRS-CY1JF273J	S. CHIP RES. 27-OHM TAPED	S	AA	AA
R 0635	VRS-CY1JF105J	S.CHIP TAPE RES 1M OHM	S	AA	AA
R 0637	VRS-CY1JF104J	S. CHIP RES. 100K-OHM TAPED	S	AA	AA
R 0638	VRS-CY1JF104J	S. CHIP RES. 100K-OHM TAPED	S	AA	AA
R 0639	VRS-CY1JF274J	SC RESISTOR 270K 63V TAPED	S	AA	AA
R 0640	VRD-RA2BE103J	RES 10KOHM 5% 1/8W	S	AA	AA
R 0641	VRS-CY1JF272J	S. CHIP RES. 2.7K-OHM TAPED	S	AA	AA
R 0643	VRS-CY1JF824J	RES 0603 820KOHM 5% 1/10W SMD	S	AA	AA
R 0644	VRS-CY1JF182J	S CHIP RES 1.8K-OHM TAPED	S	AA	AA
R 0645	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
R 0650	RR-XZ0200BMZZ	FUS RES 1R0 TAP 5% 1/2W	S	AA	AB
R 0651	VRD-RA2HD122J	RES 1.2KOHM 5% 1/2W	S	AA	AA
R 0654	VRD-RA2BE101J	RES 100 OHM 5% 1/8W	S	AA	AA
R 0655	VRS-CY1JF272J	S. CHIP RES. 2.7K-OHM TAPED	S	AA	AA
R 0656	VRS-CY1JF222J	S. CHIP RES. 2.2K-OHM TAPED	S	AA	AA
R 0657	RR-XZ0212BMZZ	FUS RES 10R TAP 5% 1/2W	S	AA	AB
R 0658	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
R 0660	VRD-RA2HD123J	RES 12KOHM 5% 1/2W	S	AA	AA
R 0663	VRN-VV3AB1R0J	MET FILM R 1 OHM 5% 1W	S	AA	AA
R 0664	VRS-CY1JF102J	S.CHIP RES TAPE 1K OHM	S	AA	AA
R 0665	VRS-CY1JF103J	S.C. RESISTOR 10K OHM	S	AA	AA
R 0666	VRD-RA2EE150J	RES 15 OHM 5% 1/4W	S	AA	AA
R 0667	VRD-RA2EE150J	RES 15 OHM 5% 1/4W	S	AA	AA
R 0668	RR-XZ0231BMZZ	FUS RES 390R TAP 5% 1/2W	S	AA	AB
R 0669	VRS-CY1JF100J	S CHIP RESISTOR 10 OHM	S	AA	AA
R 0670	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
R 0700	VRS-CY1JF472J	S. RES. 4.7K OHM TAPED	S	AA	AA
R 0701	VRS-CY1JF223J	S.CHOP REG 22K-OHM T	S	AA	AA
R 0703	VRS-CY1JF272J	S. CHIP RES. 2.7K-OHM TAPED	S	AA	AA
R 0705	VRS-CY1JF822J	S. CHIP RES. 8.2K-OHM TAPED	S	AA	AA
R 0706	VRS-TQ2BD394J	OX RE 390KOHM 5% 1/8W SMD	S	AA	AA
R 0707	VRS-CY1JF105J	S.CHIP TAPE RES 1M OHM	S	AA	AA
R 0708	VRS-TQ2BD394J	OX RE 390KOHM 5% 1/8W SMD	S	AA	AA
R 0709	VRS-TQ2BD334F	OX RE 330KOHM 1% 1/8W SMD	S	AA	AA
R 0710	VRS-TQ2BD334F	OX RE 330KOHM 1% 1/8W SMD	S	AA	AA
R 0711	VRD-RA2BE100J	RES 10 OHM 5% 1/8W	S	AA	AA
R 0712	VRS-TQ2BD394J	OX RE 390KOHM 5% 1/8W SMD	S	AA	AA
R 0713	VRS-CY1JF103J	S.C. RESISTOR 10K OHM	S	AA	AA
R 0714	VRN-VV3LBR56J	MET FILM R 0,56 OHM 5% 3W	S	AA	AB
R 0715	VRS-CY1JF183F	RES 0603 18KOHM 1% 1/10W SMD	S	AA	AA
R 0716	VRS-TQ2BD394J	OX RE 390KOHM 5% 1/8W SMD	S	AA	AA
R 0717	VRD-RA2BE101J	RES 100 OHM 5% 1/8W	S	AA	AA
R 0718	RR-XZ0212BMZZ	FUS RES 10R TAP 5% 1/2W	S	AA	AB
R 0719	VRN-VY2HD105J	RESISTOR AT 1 M 0,5W 5% VR37 PHILIPS	S	AA	AB
R 0721	VRD-RA2HD121J	RES 120 OHM 5% 1/2W	S	AA	AA
R 0722	VRD-RA2BE103J	RES 10KOHM 5% 1/8W	S	AA	AA
R 0723	VRD-RA2BE332J	RES 3,3KOHM 5% 1/8W	S	AA	AA
R 0725	VRD-RA2BE332J	RES 3,3KOHM 5% 1/8W	S	AA	AA

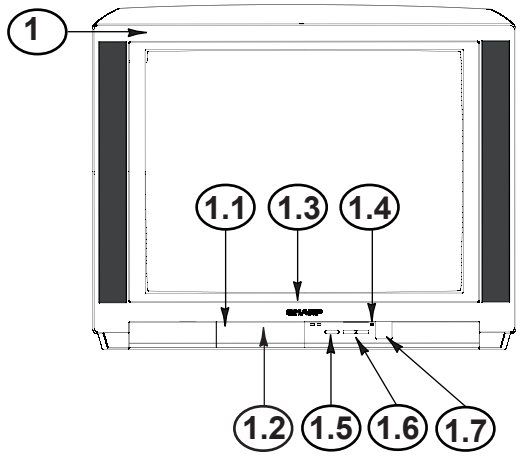
REF No.	PARTS	DESCRIPTION	*	SN CODE	EX CODE
R 0726	VRS-CY1JF562F	RES 0603 5,6KOHM 1% 1/10W SMD	S	AA	AA
R 0727	VRS-CY1JF223J	S.CHOP REG 22K-OHM T	S	AA	AA
R 0728	VRD-RA2HD121J	RES 120 OHM 5% 1/2W	S	AA	AA
R 0729	VRS-CY1JF223J	S.CHOP REG 22K-OHM T	S	AA	AA
R 0730	VRW-KQ41C4R7K	WOUND RES 4.7 OHM 10% 15W	S	AC	AE
R 0731	VRS-CY1JF472F	S.CHIP RESISTOR 4.7K OHM 1%	S	AA	AA
R 0732	VRS-CY1JF152J	S. CHIP RES. 1.5K-OHM	S	AA	AA
R 0733	VRD-RA2BE562F	RES 5,6KOHM 1% 1/8W	S	AA	AA
R 0735	VRS-CY1JF562F	RES 0603 5,6KOHM 1% 1/10W SMD	S	AA	AA
R 0736	VRS-CY1JF103J	S.C. RESISTOR 10K OHM	S	AA	AA
R 0737	VRS-CY1JF102J	S.CHIP RES TAPE 1K OHM	S	AA	AA
R 0738	VRD-RA2HD151J	RES 150 OHM 5% 1/2W	S	AA	AA
R 0739	VRS-CY1JF102J	S.CHIP RES TAPE 1K OHM	S	AA	AA
R 0740	VRS-TQ2BD561J	OX RE 560 OHM 5% 1/8W SMD	S	AA	AA
R 0741	VRS-CY1JF334J	S. CHIP RES. 330K-OHM TAPED	S	AA	AA
R 0742	VRS-TQ2BD124F	RE OX 120KOHM 1% 1/8W SMD	S	AA	AA
R 0743	VRS-TQ2BD124F	RE OX 120KOHM 1% 1/8W SMD	S	AA	AA
R 0744	VRS-CY1JF472F	S.CHIP RESISTOR 4.7K OHM 1%	S	AA	AA
R 0745	VRS-CY1JF333J	S. CHIP RES. 33K-OHM TAPED	S	AA	AA
⚠ R 0746	RR-HZA001WJZZ	R HIGH VOL 8M2 0,5W BC VR37 232224223825	S	AA	AB
⚠ R 0747	RR-HZA001WJZZ	R HIGH VOL 8M2 0,5W BC VR37 232224223825	S	AA	AB
R 0748	VRS-CY1JF224J	S. CHIP RES. 220K-OHM TAPED	S	AA	AA
R 0749	VRN-VY2HD105J	RESISTOR AT 1 M 0,5W 5% VR37 PHILIPS	S	AA	AB
R 0750	VRS-CY1JF223J	S.CHOP REG 22K-OHM T	S	AA	AA
R 0751	VRS-CY1JF104J	S. CHIP RES. 100K-OHM TAPED	S	AA	AA
R 0752	VRS-CY1JF103J	S.C. RESISTOR 10K OHM	S	AA	AA
R 0753	VRS-CY1JF222J	S. CHIP RES. 2.2K-OHM TAPED	S	AA	AA
R 0754	VRS-CY1JF103J	S.C. RESISTOR 10K OHM	S	AA	AA
R 0755	RR-XZ0224BMZZ	FUS RES 100R TAP 5% 1/2W	S	AA	AB
R 0756	VRD-RA2BE182J	RES 1,8KOHM 5% 1/8W	S	AA	AA
R 0758	RR-XZ0123BMZZ	FUS RES 82R TAP 5% 1/3W	S	AA	AB
R 0759	VRS-VV3DB220J	MET OX RES 22 OHM 5% 2W	S	AA	AA
R 0760	VRS-CY1JF392J	S. CHIP RES. 3.9K-OHM TAPED	S	AA	AA
R 0764	VRS-CY1JF471J	S. CHIP RES. 470-OHM TAPED	S	AA	AA
R 0765	VRS-CY1JF102J	S.CHIP RES TAPE 1K OHM	S	AA	AA
R 0766	VRS-CY1JF473J	S. CHIP RES 47K-OHM TAPED	S	AA	AA
R 0767	VRS-CY1JF472J	S. RES. 4.7K OHM TAPED	S	AA	AA
R 0768	VRS-CY1JF102J	S.CHIP RES TAPE 1K OHM	S	AA	AA
R 0770	VRD-RA2HD124J	RES 120KOHM 5% 1/2W	S	AA	AA
R 0773	VRS-CY1JF102J	S.CHIP RES TAPE 1K OHM	S	AA	AA
R 0774	VRD-RA2HD124J	RES 120KOHM 5% 1/2W	S	AA	AA
R 0775	VRS-CY1JF153J	S CHIP RES. 15K-OHM TAPED	S	AA	AA
R 0776	VRD-RA2BE122J	RES 1,2KOHM 5% 1/8W	S	AA	AA
R 0777	VRS-TQ2BDR68J	OX RE 0,68 OHM 5% 1/8W SMD LRC01	S	AA	AA
R 0778	VRD-RA2HD101J	RES 100 OHM 5% 1/2W	S	AA	AA
R 0779	VRD-RA2HD101J	RES 100 OHM 5% 1/2W	S	AA	AA
R 0780	VRD-RA2HD220J	RES 22 OHM 5% 1/2W	S	AA	AA
R 0781	VRS-CY1JF101J	S. CHIP RES. 100-OHM TAPED	S	AA	AA
R 0782	VRS-CY1JF473J	S. CHIP RES 47K-OHM TAPED	S	AA	AA
R 0783	VRS-CY1JF224J	S. CHIP RES. 220K-OHM TAPED	S	AA	AA
R 0784	VRS-CY1JF183J	S. CHIP RES. 18K-OHM TAPED	S	AA	AA
R 0785	VRS-CY1JF104J	S. CHIP RES. 100K-OHM TAPED	S	AA	AA
R 0786	VRS-CY1JF182J	S CHIP RES 1.8K-OHM TAPED	S	AA	AA
R 0787	RR-XZ0214BMZZ	FUS RES 15R TAP 5% 1/2W	S	AA	AB
R 0788	VRS-CY1JF223J	S.CHOP REG 22K-OHM T	S	AA	AA
R 0789	VRS-CY1JF104J	S. CHIP RES. 100K-OHM TAPED	S	AA	AA
R 0790	VRD-RA2HD271J	RES 270 OHM 5% 1/2W	S	AA	AA
R 0791	VRS-CY1JF391J	SURFACE MOUNT CHIP RESISTOR 390 OHM	S	AA	AA
R 0792	VRS-CY1JF223J	S.CHOP REG 22K-OHM T	S	AA	AA
R 0793	VRS-CY1JF223J	S.CHOP REG 22K-OHM T	S	AA	AA
R 0794	VRS-CY1JF471J	S. CHIP RES. 470-OHM TAPED	S	AA	AA
R 0795	VRD-RA2BE560J	RES 56 OHM 5% 1/8W	S	AA	AA
R 0796	RR-XZ0200BMZZ	FUS RES 1R0 TAP 5% 1/2W	S	AA	AB
R 0797	RR-XZ0202BMZZ	FUS RES 1R5 TAP 5% 1/2W	S	AA	AB
R 0798	RR-XZ0218BMZZ	FUS RES 33R TAP 5% 1/2W	S	AA	AB
R 0799	RR-XZ0200BMZZ	FUS RES 1R0 TAP 5% 1/2W	S	AA	AB
R 0901	VRS-CY1JF104J	S. CHIP RES. 100K-OHM TAPED	S	AA	AA
R 0902	VRS-CY1JF333J	S. CHIP RES. 33K-OHM TAPED	S	AA	AA
R 0903	VRS-CY1JF102J	S.CHIP RES TAPE 1K OHM	S	AA	AA
R 0904	VRS-CY1JF273J	S. CHIP RES. 27-OHM TAPED	S	AA	AA
R 0905	VRS-CY1JF223J	S.CHOP REG 22K-OHM T	S	AA	AA
R 0906	VRS-CY1JF225J	S. CHIP RES. 2.2M OHM TAPED	S	AA	AA
R 0907	VRS-CY1JF104J	S. CHIP RES. 100K-OHM TAPED	S	AA	AA
R 1009	VRD-RA2BE273J	RES 27KOHM 5% 1/8W	S	AA	AA

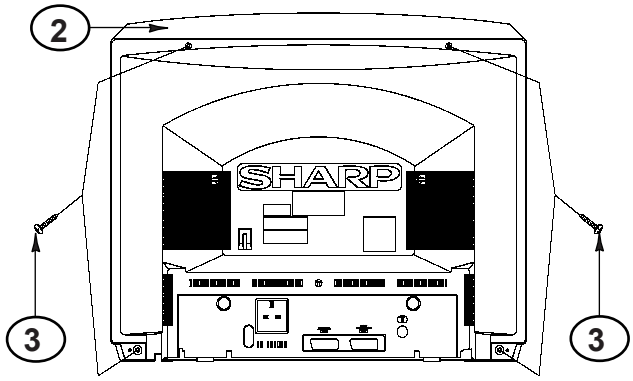
	REF No.	PARTS	DESCRIPTION	*	SN CODE	EX CODE
	R 1010	VRS-CY1JF332J	S. CHIP RES. 3.3K-OHM TAPED	S	AA	AA
	R 1013	VRS-CY1JF101J	S. CHIP RES. 100-OHM TAPED	S	AA	AA
	R 1014	VRS-CY1JF101J	S. CHIP RES. 100-OHM TAPED	S	AA	AA
	R 1015	VRS-CY1JF101J	S. CHIP RES. 100-OHM TAPED	S	AA	AA
	R 1017	VRS-CY1JF153J	S CHIP RES. 15K-OHM TAPED	S	AA	AA
	R 1019	VRS-CY1JF273J	S. CHIP RES. 27-OHM TAPED	S	AA	AA
	R 1024	VRD-RA2BE102J	RES 1KOHM 5% 1/8W	S	AA	AA
	R 1025	VRS-CY1JF102F	CHIP RESISTOR 1% 1K	S	AA	AA
	R 1026	VRS-CY1JF561F	RES 0603 560 OHM 1% 1/10W SMD	S	AA	AA
	R 1030	VRS-CY1JF132F	S.CHIP RES TAPE 1,3KOHM 1/10W SMD	S	AA	AA
	R 1031	VRS-CY1JF181F	S.CHIP RES TAPE 180 OHM 1% 1/10W SMD	S	AA	AA
	R 1032	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	R 1036	VRD-RA2BE472J	RES 4,7KOHM 5% 1/8W	S	AA	AA
	R 1037	VRS-CY1JF102J	S.CHIP RES TAPE 1K OHM	S	AA	AA
	R 1039	VRS-CY1JF332J	S. CHIP RES. 3.3K-OHM TAPED	S	AA	AA
	R 1042	VRS-CY1JF102F	CHIP RESISTOR 1% 1K	S	AA	AA
	R 1044	VRS-CY1JF223J	S.CHOP REG 22K-OHM T	S	AA	AA
	R 1049	VRS-CY1JF472J	S. RES. 4.7K OHM TAPED	S	AA	AA
	R 1050	VRS-CY1JF153J	S CHIP RES. 15K-OHM TAPED	S	AA	AA
	R 1051	VRS-CY1JF821J	S. CHIP RES. 820-OHM	S	AA	AA
	R 1055	VRS-CY1JF821F	RES 0603 820 OHM 1% 1/10W SMD	S	AA	AA
	R 1099	VRS-CY1JF101J	S. CHIP RES. 100-OHM TAPED	S	AA	AA
			MISCELLANEOUS PARTS			
		GCOVA1512BMSA	DECORATION	S	AA	AB
		QFSHD1001BMZZ	FUSE HOLD.EYF52BC=PANASON	S	AA	AA
		QFSHD1002BMZZ	FUSE HOLD.EYF52BC=PANASON	S	AA	AA
		QPWBF7351BMN1	PWB CHASSIS GA200 CHAMALEON	S	AG	AS
	(AV)	QSOCZ2107BMZZ	SOCKET	S	AF	AE
	(AV1)	QPLGN0241CEZZ	PLUG	S	AA	AA
	(CR)	QPLGN0241CEZZ	PLUG	S	AA	AA
	(F)	QPLGN1505BMZZ	HEADER 4+1 JST B05B-DVS-L	S	AA	AC
	(G)	QPLGN0260CEZZ	CONNECTOR 2 PIN TV-50P-02-V2 A TAIKO	S	AA	AA
	(H)	QPLGN0441CEZZ	PLUG 4PIN	S	AA	AA
	(L2)	QTIPM0017CEFM	TIP	S	AA	AA
	(M)	QPLGN0360CEZZ	CONNECTOR 3 PIN TV-50P-03-V2 A TAIKO	S	AA	AA
	(RGB)	QSOCZ2107BMZZ	SOCKET	S	AF	AE
	(S)	QPLGN0441CEZZ	PLUG 4PIN	S	AA	AA
	(VIA)	QPLGN0241CEZZ	PLUG	S	AA	AA
	(YA)	QSOCZ2561CEZZ	CONECTOR 25P JDV R25LB-10A	S	AB	AF
	(YB)	QSOCZ2561CEZZ	CONECTOR 25P JDV R25LB-10A	S	AB	AF
⚠	F 0701	QFS-C3226CEZZ	FUSE T3.15AH 250V	S	AC	AE
⚠	F 0702	QFS-J4021CEZZ	FUS. 4,0A/125V LITTELFUSE	S	AC	AE
⚠	F 0704	QFS-J4021CEZZ	FUS. 4,0A/125V LITTELFUSE	S	AC	AE
	FB 0302	RBLN-0091GEZZ	FERRITE BEAD	S	AA	AA
	FB 0303	RBLN-0091GEZZ	FERRITE BEAD	S	AA	AA
	FB 0501	RBLN-0091GEZZ	FERRITE BEAD	S	AA	AA
	FB 0601	RBLN-0091GEZZ	FERRITE BEAD	S	AA	AA
	FB 0603	RBLN-0091GEZZ	FERRITE BEAD	S	AA	AA
	FB 0701	RBLN-0091GEZZ	FERRITE BEAD	S	AA	AA
	FB 0703	RBLN-0091GEZZ	FERRITE BEAD	S	AA	AA
	J 0002	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	J 0015	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	J 0027	RBLN-0091GEZZ	FERRITE BEAD	S	AA	AA
	J 0036	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	J 0103	VRD-RA2HD122J	RES 1.2KOHM 5% 1/2W	S	AA	AA
	J 0111	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	J 0141	VRD-RA2EE222J	RES 2,2KOHM 5% 1/4W	S	AA	AA
	J 0142	VRD-RA2EE222J	RES 2,2KOHM 5% 1/4W	S	AA	AA
	J 0146	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	J 0150	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	J 0161	VRD-RA2EE222J	RES 2,2KOHM 5% 1/4W	S	AA	AA
	J 0162	VRD-RA2EE222J	RES 2,2KOHM 5% 1/4W	S	AA	AA
	J 0165	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	J 0172	VRD-RA2HD150J	RES 15 OHM 5% 1/2W	S	AA	AA
	J 0192	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	JF 0004	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	JF 0005	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	JF 0006	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	JF 0008	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	JF 0011	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	JF 0054	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	JF 0063	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	JF 1008	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	JF 1009	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	LP 0701	RLAMP0001BMZZ	NEON TYPE 4/30HB NEOTRONIC	S	AB	AC
	M 1000	RRMCUA005WJZZ	R/C RECEIVER TSOP2238SS1BS12 VISHAY	S	AB	AF
	PHONE	QJAKJ0101SEZZ	MINIATURE PHONE JACK MORNING STAR	S	AA	AD
	RA 0609	VT-SI04009017	SILICON TUBE	S	AA	AA
	RB 0609	VT-SI04009017	SILICON TUBE	S	AA	AA
⚠	S 0701	QSW-P0600BMZZ	SWITCH S40 3110432713 GDE	S	AF	AL
	S 0702	QSW-K0079GEZZ	TACTILE SWITCH	S	AA	AA
	S 0703	QSW-K0079GEZZ	TACTILE SWITCH	S	AA	AA
	S 0704	QSW-K0079GEZZ	TACTILE SWITCH	S	AA	AA
	S 0705	QSW-K0079GEZZ	TACTILE SWITCH	S	AA	AA
	VR 0701	RH-VX0035BMZZ	VARISTOR 510V/25A PHILIPS	S	AA	AD
	PWB-B		**CRT UNIT**			
			INTEGRATED CIRCUITS			
	IC 1801	RH-IX1833BMZZ	IC TDA6109 VIDEO AMPLIFIER 100Hz	S	AF	AR
			TRANSISTORS			
	Q 1801	RH-TX0243BMZZ	TRT BC857B PHILIPS	S	AA	AA
			DIODES			
	D 1805	RH-EX0545BMZZ	ZENER DIODE TZMC5V1 TFK SMD	S	AA	AA
	D 1809	RH-DX0570BMZZ	DIODE 1N4004 ACPA	S	AA	AA
	D 1813	RH-DX0577BMZZ	DIODE 1N4935 ACPA	S	AB	AE
	D 1814	RH-DX0577BMZZ	DIODE 1N4935 ACPA	S	AB	AE
	D 1815	RH-DX0577BMZZ	DIODE 1N4935 ACPA	S	AB	AE
			COILS			
	L 1801	RCILP0179CEZZ	COIL LHL08TB470K TAIYO YUDEN	S	AA	AC
			CAPACITORS			
	C 1812	VCEAGA2EW105M	ELEC C 1UF 20% 250V	S	AA	AA
	C 1813	VCKYCY1HF103Z	CHIP CAP 0.01UF/50V	S	AA	AA
	C 1814	VCKYPB3DE472Z	C DE1110-1E472Z2K MURATA	S	AA	AC
	C 1815	VCKYCY1EF104Z	S CHIP TAPE CAP 0.1UF/25V	S	AA	AA
	C 1824	VCFYAA2EA333K	POL FILM C 33NF 10% 250V	S	AC	AE
	C 1825	VCFYAA2EA333K	POL FILM C 33NF 10% 250V	S	AC	AE
	C 1826	VCFYAA2EA333K	POL FILM C 33NF 10% 250V	S	AC	AE
	C 1827	VCKYCY1CF474Z	GRM39F 474Z 16 (1608)SMD CAPACITOR	S	AA	AA
			RESISTORS			
	R 1806	VRS-CY1JF181J	S CHIP RES. 180-OHM TAPED	S	AA	AA
	R 1811	VRS-CY1JF181J	S CHIP RES. 180-OHM TAPED	S	AA	AA
	R 1816	VRS-CY1JF181J	S CHIP RES. 180-OHM TAPED	S	AA	AA
	R 1830	VRS-CY1JF182J	S CHIP RES 1.8K-OHM TAPED	S	AA	AA
	R 1831	VRD-RA2HD101J	RES 100 OHM 5% 1/2W	S	AA	AA
	R 1832	VRC-MA2HG681J	SOLID R 680 OHM 5% 1/2W	S	AA	AB
	R 1833	VRD-RA2HD101J	RES 100 OHM 5% 1/2W	S	AA	AA
	R 1834	VRC-MA2HG681J	SOLID R 680 OHM 5% 1/2W	S	AA	AB
	R 1835	VRD-RA2HD101J	RES 100 OHM 5% 1/2W	S	AA	AA
	R 1836	VRC-MA2HG681J	SOLID R 680 OHM 5% 1/2W	S	AA	AB
	R 1837	VRS-CY1JF225J	S. CHIP RES. 2.2M OHM TAPED	S	AA	AA
	R 1839	VRS-CY1JF100J	S CHIP RESISTOR 10 OHM	S	AA	AA
	R 1841	VRS-CY1JF332J	S. CHIP RES. 3.3K-OHM TAPED	S	AA	AA
	R 1843	VRS-CY1JF102J	S.CHIP RES TAPE 1K OHM	S	AA	AA
	R 1844	VRD-RA2HD561J	RES 560 OHM 5% 1/2W	S	AA	AA
			MISCELLANEOUS PARTS			
⚠		QSOCV0103BMZZ	SOCK HPS1521-014408 HOSHI	S	AD	AG
	(H)	QPLGN0441CEZZ	PLUG 4PIN	S	AA	AA
	(K)0000	QPLGN0641CEZZ	PLUG	S	AA	AA
	(L3)	QTIPM0017CEFM	TIP	S	AA	AA
	J 0003	VRD-RA2HD270J	RES 27 OHM 5% 1/2W	S	AA	AA
	VR 1801	RH-VX0037BMZZ	VARISTOR 2322 593 02506 BC 25V	S	AA	AC
	PWB-C		**DIGITAL MODULE**			
			INTEGRATED CIRCUITS			
	IC 6001	RH-IX1869BMZZ	IC SDA5550M-A12 MICRONAS	S	AM	AY
*	IC 6002	CH-IX1841CJEB	EPROM SET 4M 3V FLASH 28JS74E/EF	S	AM	AY
	IC 6003	RH-IX1883BMZZ	IC M24128-WHN5 ST	S	AD	AN
	IC 6005	RH-IX1873BMZZ	IC RESET MC33164P-3RA ONSEMICONDUCTOR	S	AA	AE
	IC 6006	RH-IX1805BMZZ	IC SDA9380 INFINEON	S	AN	AZ
	IC 6007	RH-IX1868BMZZ	IC VSP9402A (A32) MICRONAS	S	AW	BH
			FOR 28JS-74EC USE:			
*	IC 6002	CH-IX1841CJC1	EPROM SET 4M 3V FLASH 28JS74C	S	AM	AY

REF No.	PARTS	DESCRIPTION	*	SN CODE	EX CODE
		TRANSISTORS			
Q 6002	RH-TX0232BMZZ	TRT BC847B SMD PHILIPS	S	AA	AA
Q 6003	RH-TX0232BMZZ	TRT BC847B SMD PHILIPS	S	AA	AA
Q 6004	RH-TX0232BMZZ	TRT BC847B SMD PHILIPS	S	AA	AA
Q 6005	RH-TX0217BMZZ	TRT BC337 PHILIPS	S	AA	AB
Q 6006	RH-TX0106BMZZ	TRT BC547	S	AA	AB
Q 6007	RH-TX0243BMZZ	TRT BC857B PHILIPS	S	AA	AA
		DIODES			
D 6001	RH-EX0542BMZZ	ZENER DIODE TZMC3V9 TFK SMD	S	AA	AA
D 6002	RH-EX0542BMZZ	ZENER DIODE TZMC3V9 TFK SMD	S	AA	AA
D 6003	RH-DX0606BMZZ	DIODE BAS85 PHILIPS SMD	S	AA	AB
D 6004	RH-DX0606BMZZ	DIODE BAS85 PHILIPS SMD	S	AA	AB
D 6005	RH-EX0542BMZZ	ZENER DIODE TZMC3V9 TFK SMD	S	AA	AA
D 6010	RH-DX0551BMZZ	DIODE LL4148 TFK SMD	S	AA	AA
D 6011	RH-EX0587BMZZ	ZENER DIODE TZMB8V2 TFK SMD 2%	S	AA	AA
D 6012	RH-EX0405BMZZ	ZENER DIODE BZX79C3V9	S	AB	AB
D 6014	RH-DX0606BMZZ	DIODE BAS85 PHILIPS SMD	S	AA	AB
D 6015	RH-DX0551BMZZ	DIODE LL4148 TFK SMD	S	AA	AA
		PACKAGED CIRCUITS			
X 6001	RCRSB0100BMZZ	CRYSTAL 6,00 MHZ	S	AD	AG
X 6002	RCRSB0244BMZZ	CRYSTAL 24.576MHz ACAL	S	AC	AG
X 6003	RCRSB0219BMZZ	CRYSTAL 20.25 HMZ	S	AG	AH
		COILS			
L 6001	VP-DF100K0000	PEAK COIL 10UH 10%	S	AA	AA
L 6002	VP-DF3R3K0000	PEAK COIL 3,3UH 10%	S	AB	AB
L 6003	VP-DF1R0M0000	PEAK COIL 1UH 20%	S	AA	AA
L 6004	VP-DF1R0M0000	PEAK COIL 1UH 20%	S	AA	AA
L 6005	VP-DF1R0M0000	PEAK COIL 1UH 20%	S	AA	AA
L 6006	VP-DF1R0M0000	PEAK COIL 1UH 20%	S	AA	AA
		CAPACITORS			
C 6001	VCEA0A0JW477M	E CAPACITOR 470UF/6.3V 6.3X11	S	AA	AA
C 6003	VCKYCY1EF104Z	S CHIP TAPE CAP 0.1UF/25V	S	AA	AA
C 6006	VCKYCY1EF104Z	S CHIP TAPE CAP 0.1UF/25V	S	AA	AA
C 6007	VCKYCY1EF104Z	S CHIP TAPE CAP 0.1UF/25V	S	AA	AA
C 6008	VCKYCY1EF104Z	S CHIP TAPE CAP 0.1UF/25V	S	AA	AA
C 6009	VCKYCY1EF104Z	S CHIP TAPE CAP 0.1UF/25V	S	AA	AA
C 6010	VCKYCY1HF103Z	CHIP CAP 0.01UF/50V	S	AA	AA
C 6011	VCCCCY1HH270J	S. CHIP CAP 27PF/50V (TAPED)	S	AA	AA
C 6012	VCCCCY1HH270J	S. CHIP CAP 27PF/50V (TAPED)	S	AA	AA
C 6013	VCKYCY1EF104Z	S CHIP TAPE CAP 0.1UF/25V	S	AA	AA
C 6014	VCEA0A1HW476M	E CAPACITOR 47-UF 50V 6.3x11	S	AA	AA
C 6015	VCKYCY1EF104Z	S CHIP TAPE CAP 0.1UF/25V	S	AA	AA
C 6016	VCKYCY1EF104Z	S CHIP TAPE CAP 0.1UF/25V	S	AA	AA
C 6017	VCKYCY1EF104Z	S CHIP TAPE CAP 0.1UF/25V	S	AA	AA
C 6018	VCKYCY1EF104Z	S CHIP TAPE CAP 0.1UF/25V	S	AA	AA
C 6020	VCKYCY1HF473Z	S. CHIP CAP 0.047UF/50V	S	AA	AA
C 6021	VCKYCY1HF473Z	S. CHIP CAP 0.047UF/50V	S	AA	AA
C 6022	VCKYCY1HF473Z	S. CHIP CAP 0.047UF/50V	S	AA	AA
C 6023	VCCCCY1HH121J	S. CAPACITOR 120PF/50V TAPED	S	AA	AA
C 6024	VCKYCY1EF104Z	S CHIP TAPE CAP 0.1UF/25V	S	AA	AA
C 6025	VCEA0A1HW476M	E CAPACITOR 47-UF 50V 6.3x11	S	AA	AA
C 6026	VCKYCY1EF104Z	S CHIP TAPE CAP 0.1UF/25V	S	AA	AA
C 6027	VCCCCY1HH150J	S. CHIP CAP 15PF/50V TAPED	S	AA	AA
C 6028	VCCCCY1HH150J	S. CHIP CAP 15PF/50V TAPED	S	AA	AA
C 6029	VCKYCY1HF103Z	CHIP CAP 0.01UF/50V	S	AA	AA
C 6030	VCKYCY1EF104Z	S CHIP TAPE CAP 0.1UF/25V	S	AA	AA
C 6031	VCKYCY1EF104Z	S CHIP TAPE CAP 0.1UF/25V	S	AA	AA
C 6033	VCKYCY1HF223Z	SC CAPACITOR 0.022UF 50V TAPED	S	AA	AA
C 6034	VCKYCY1HF223Z	SC CAPACITOR 0.022UF 50V TAPED	S	AA	AA
C 6035	RC-FZ9683BMNJ	POL FILM C 68NF 5% 63V	S	AA	AB
C 6036	VCKYCY1EF104Z	S CHIP TAPE CAP 0.1UF/25V	S	AA	AA
C 6037	VCEA0A1HW106M	ELEC C 10UF 20% 50V	S	AA	AA
C 6038	VCKYCY1EF104Z	S CHIP TAPE CAP 0.1UF/25V	S	AA	AA
C 6039	VCKYCY1HF223Z	SC CAPACITOR 0.022UF 50V TAPED	S	AA	AA
C 6040	VCKYCY1EF104Z	S CHIP TAPE CAP 0.1UF/25V	S	AA	AA
C 6041	VCEA0A1HW106M	ELEC C 10UF 20% 50V	S	AA	AA
C 6042	VCKYCY1EF104Z	S CHIP TAPE CAP 0.1UF/25V	S	AA	AA
C 6043	VCEA0A1HW106M	ELEC C 10UF 20% 50V	S	AA	AA
C 6044	VCKYCY1HF103Z	CHIP CAP 0.01UF/50V	S	AA	AA
C 6045	VCKYCY1EF104Z	S CHIP TAPE CAP 0.1UF/25V	S	AA	AA
C 6046	VCKYCY1EF104Z	S CHIP TAPE CAP 0.1UF/25V	S	AA	AA
C 6047	VCKYCY1EF104Z	S CHIP TAPE CAP 0.1UF/25V	S	AA	AA
C 6048	VCKYCY1EF104Z	S CHIP TAPE CAP 0.1UF/25V	S	AA	AA
C 6049	VCKYCY1HF473Z	S. CHIP CAP 0.047UF/50V	S	AA	AA
C 6050	VCKYCY1HF473Z	S. CHIP CAP 0.047UF/50V	S	AA	AA
C 6051	VCKYCY1HF473Z	S. CHIP CAP 0.047UF/50V	S	AA	AA
C 6052	VCEA0A1HW106M	ELEC C 10UF 20% 50V	S	AA	AA
C 6053	VCKYCY1EF104Z	S CHIP TAPE CAP 0.1UF/25V	S	AA	AA
C 6054	VCKYCY1EF104Z	S CHIP TAPE CAP 0.1UF/25V	S	AA	AA
C 6055	VCKYCY1EF104Z	S CHIP TAPE CAP 0.1UF/25V	S	AA	AA
C 6056	VCKYCY1HF473Z	S. CHIP CAP 0.047UF/50V	S	AA	AA
C 6057	VCKYCY1EF104Z	S CHIP TAPE CAP 0.1UF/25V	S	AA	AA
C 6058	VCKYCY1EF104Z	S CHIP TAPE CAP 0.1UF/25V	S	AA	AA
C 6059	VCKYCY1EF104Z	S CHIP TAPE CAP 0.1UF/25V	S	AA	AA
C 6060	VCCCCY1HH220J	S. CHIP CAP 22PF/50V TAPED	S	AA	AA
C 6061	VCCCCY1HH220J	S. CHIP CAP 22PF/50V TAPED	S	AA	AA
C 6062	VCKYCY1EF104Z	S CHIP TAPE CAP 0.1UF/25V	S	AA	AA
C 6063	VCKYCY1EF104Z	S CHIP TAPE CAP 0.1UF/25V	S	AA	AA
C 6064	VCKYCY1HF103Z	CHIP CAP 0.01UF/50V	S	AA	AA
C 6065	VCKYCY1EB473K	GRM39B 473K 25 (1608)SMD CAPACITOR	S	AA	AA
C 6066	VCKYCY1EB473K	GRM39B 473K 25 (1608)SMD CAPACITOR	S	AA	AA
C 6067	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
C 6141	VCKYCY1EF104Z	S CHIP TAPE CAP 0.1UF/25V	S	AA	AA
C 6143	VCFYFA1HA104J	POL FILM C 100NF 5% 50V	S	AA	AA
		RESISTORS			
R 6001	VRS-CY1JF104J	S. CHIP RES. 100K-OHM TAPED	S	AA	AA
R 6002	VRS-CY1JF562J	S. CHIP RES. 5.6K-OHM TAPED	S	AA	AA
R 6003	VRS-CY1JF562J	S. CHIP RES. 5.6K-OHM TAPED	S	AA	AA
R 6004	VRD-RA2BE101J	RES 100 OHM 5% 1/8W	S	AA	AA
R 6005	VRD-RA2BE101J	RES 100 OHM 5% 1/8W	S	AA	AA
R 6006	VRS-CY1JF684J	S. CHIP RES. 680K-OHM TAPED	S	AA	AA
R 6007	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
R 6008	VRS-CY1JF332J	S. CHIP RES. 3.3K-OHM TAPED	S	AA	AA
R 6009	VRS-CY1JF332J	S. CHIP RES. 3.3K-OHM TAPED	S	AA	AA
R 6010	VRS-CY1JF273J	S. CHIP RES. 27-OHM TAPED	S	AA	AA
R 6011	VRS-CY1JF221J	S. CHIP RES. 220-OHM TAPED	S	AA	AA
R 6014	VRD-RA2BE472J	RES 4,7KOHM 5% 1/8W	S	AA	AA
R 6015	VRS-CY1JF221J	S. CHIP RES. 220-OHM TAPED	S	AA	AA
R 6016	VRS-CY1JF473J	S. CHIP RES 47K-OHM TAPED	S	AA	AA
R 6017	VRS-CY1JF473J	S. CHIP RES 47K-OHM TAPED	S	AA	AA
R 6018	VRS-CY1JF153J	S CHIP RES. 15K-OHM TAPED	S	AA	AA
R 6019	VRD-RA2BE101J	RES 100 OHM 5% 1/8W	S	AA	AA
R 6020	VRD-RA2BE101J	RES 100 OHM 5% 1/8W	S	AA	AA
R 6021	VRD-RA2BE101J	RES 100 OHM 5% 1/8W	S	AA	AA
R 6023	VRS-CY1JF103J	S.C. RESISTOR 10K OHM	S	AA	AA
R 6024	VRD-RA2BE224J	RES 220KOHM 5% 1/8W	S	AA	AA
R 6026	VRD-RA2BE562J	RES 5,6KOHM 5% 1/8W	S	AA	AA
R 6029	VRS-CY1JF333J	S. CHIP RES. 33K-OHM TAPED	S	AA	AA
R 6031	VRS-CY1JF153J	S CHIP RES. 15K-OHM TAPED	S	AA	AA
R 6032	VRS-CY1JF271J	S.CHIP RESIS. 270OHM TAPED	S	AA	AA
R 6033	VRS-CY1JF222J	S. CHIP RES. 2.2K-OHM TAPED	S	AA	AA
R 6034	VRS-CY1JF683J	RES 0603 68KOHM 5% 1/10W SMD	S	AA	AA
R 6035	VRS-CY1JF273F	RES 0603 27KOHM 1% 1/10W SMD	S	AA	AA
R 6038	VRD-RA2BE101J	RES 100 OHM 5% 1/8W	S	AA	AA
R 6039	VRD-RA2BE101J	RES 100 OHM 5% 1/8W	S	AA	AA
R 6040	VRS-CY1JF101J	S. CHIP RES. 100-OHM TAPED	S	AA	AA
R 6041	VRS-CY1JF184J	CHIP RESISTOR 180K	S	AA	AA
R 6042	VRS-CY1JF101J	S. CHIP RES. 100-OHM TAPED	S	AA	AA
R 6043	VRD-RA2BE102F	RES 1KOHM 1% 1/8W	S	AA	AA
R 6044	VRS-CY1JF560F	S.CHIP RES TAPE 56 OHM 1% 1/10W SMD	S	AA	AA
R 6045	VRS-CY1JF331J	S CHIP RES TAPE 330 OHM	S	AA	AA
R 6046	VRD-RA2BE103J	RES 10KOHM 5% 1/8W	S	AA	AA
R 6049	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
R 6054	VRS-TQ2BD000J	3216 0 OHM 5% 1/8W SMD	S	AA	AA
R 6055	VRS-CY1JF471F	CHIP RESISTOR 1% 470 OHM	S	AA	AA
R 6056	VRS-CY1JF122F	S.CHIP RES TAPE 1,2 OHM 1% 1/10W SMD	S	AA	AA
R 6057	VRS-TQ2BD000J	3216 0 OHM 5% 1/8W SMD	S	AA	AA
R 6058	VRS-CY1JF750J	S CHIP RESISTOR 75 OHM	S	AA	AA
R 6059	VRS-CY1JF750J	S CHIP RESISTOR 75 OHM	S	AA	AA
		MISCELLANEOUS PARTS			
(K)	QPLGN0642CEZZ	PLUG	S	AA	AB
(VI)	QPLGN0642CEZZ	PLUG	S	AA	AB
(YA)	QPLGZ2541CEZZ	CONECTOR 25P JDV PS25LB-10-1	S	AB	AF
(YB)	QPLGZ2541CEZZ	CONECTOR 25P JDV PS25LB-10-1	S	AB	AF
FB 6001	RBLN-0091GEZZ	FERRITE BEAD	S	AA	AA
FB 6002	RBLN-0091GEZZ	FERRITE BEAD	S	AA	AA
FB 6003	RBLN-0091GEZZ	FERRITE BEAD	S	AA	AA

	REF No.	PARTS	DESCRIPTION	*	SN CODE	EX CODE
	FB 6004	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	FB 6005	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	FB 6006	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	FB 6007	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	FB 6008	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	FB 6009	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	FB 6010	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	FB 6011	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	FB 6012	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	FB 6013	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	FB 6014	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	FB 6016	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	FB 6017	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	FB 6018	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	FB 6019	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	FB 6020	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	FB 6021	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	FB 6022	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	FB 6023	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	FB 6024	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	FB 6025	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	FB 6026	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	FB 6027	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	FB 6028	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	FB 6029	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	FB 6030	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	FB 6031	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	FB 6032	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	FB 6033	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	FB 6034	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	FB 6035	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	FB 6036	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	FB 6037	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	FB 6038	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	FB 6039	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	FB 6041	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	FB 6042	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	FB 6043	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	FB 6044	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	FB 6048	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	IC6002A	QSOCZ0115SC32	SOCKET IC 32 PIN	S	AA	AB
	J 0004	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	J 0007	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	J 0012	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	J 0017	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	J 0022	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	J 0023	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	J 0026	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	J 0027	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	J 0032	VRD-RA2BE101J	RES 100 OHM 5% 1/8W	S	AA	AA
	J 0049	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	J 0063	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	J 0068	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	J 0077	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	J 0079	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	J 0094	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	J 0095	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	J 0100	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	J 0101	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	J 0102	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	J 0103	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	J 0104	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	J 0106	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	J 0107	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	JF 6002	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	JF 6004	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	JF 6005	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	JF 6007	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	JF 6009	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
	JF 6014	VRS-CY1JF000J	S. CHIP RES. 0-OHM TAPED	S	AA	AA
			MISCELLANEOUS PARTS			
		LHLDW1009CEZZ	HOLDER	S	AA	AA
		LHLDW1060CEZZ	HOLDER	S	AA	AA
		LHLDZ1714BMZZ	HOLDER ANODE CAP	S	AA	AA
		RRMCG1071BMSA	R/C CA-10 HOSIDEN	S	AS	AW
		SPAKP2006BMZZ	CEL-AIR WRAPPER	S	AC	AG

	REF No.	PARTS	DESCRIPTION	*	SN CODE	EX CODE
		UBATU0013TAZZ	BATTERY R6(X2) TOSHIBA	S	AA	AC
	(F)	QCNW-2841BMZZ	WIRE 4 WAYS FH DA100 4:3	S	AC	AG
	(SPK)	RCORF0002BMZZ	FERRITE CORE TFC-16816EX	S	AF	AK
		LHLDZ1708BMZZ	HOLDER	S	AA	AA
⚠		QCNW-2745BMZZ	MAT WIRE OREGA 100463.20	S	AC	AH
	(H)	QCNW-2743BMZZ	WIRE (4)VIAS (H)	S	AA	AE
	(K)	QCNW-A925WJZZ	CABLE (K) 400 mm	S	AC	AH
	(VI)	LHLDW1033CE00	HOLDER	S	AA	AA
	(VI)	QCNW-2900BMZZ	VIDEO WIRE (VI)	S	AD	AL
	FB 0001	RCORF0002BMZZ	FERRITE CORE TFC-16816EX	S	AF	AK
		LHLDF1526BMZ1	CHASSIS HOLDER	S	AA	AD
		PZETS0003BMZZ	BARRIER V0	S	AC	AH
		VSP1206PB617A	SPAEAKER 7 OHM 12x6CM SEA TRADE ELECTRO	S	AE	AN
		XTASD30P12000	SCREW	S	AA	AA
		XTASD40P12000	SCREW	S	AA	AA
		LHLDK1501BM00	HOLDER	S	AA	AB
		LHLDW1009CEZZ	HOLDER	S	AA	AA
		LHLDW1060CEZZ	HOLDER	S	AA	AA
⚠		QACCZ2100BMSA	AC CORD	S	AH	AR
	(S)	QCNW-2661BMZZ	WIRE (4)WAYS	S	AC	AG
		SPAKC5482BMN2	PACKING CASE 28"	S	AN	AZ
		SPAKX4055BMZZ	PACKING AD(70ES-03S)	S	AH	AV
		LHLDW1006CEZZ	HOLDER	S	AA	AB
		GCOVHA009WJSA	BATTERY COVER R/C HTR0222-720010 HOSIDEN	S	AA	AD
			OWNERS MANUAL			
		TINS-A343WJN0	OWNERS MANUAL 28JS74E	S	AD	AK
		TINS-A376WJN0	OWNERS MANUAL 28JS74C	S	AM	AY
		TINS-A360WJN0	OWNERS MANUAL 28JS74EF	S	AD	AK
			CABINET PARTS			
⚠	1	CCABA1310BMV2	CABINET SET 28JS64S	S	AW	BH
	1.1	GDORF1053BMSC	DOOR	S	AA	AD
	1.2	PKAI-1083BM00	DOOR RATCH	S	AC	AF
	1.3	HBDGB3013MESB	BADGE	S	AC	AH
	1.4	HDECQ0041BMSA	LED DECORATION(70ES-03S)	S	AA	AB
	1.5	HDECQ0042BMSA	R/C DECORATION(70ES-03S)	S	AA	AC
	1.6	JBTN-1053BMSC	UP/DOWN BUTTON	S	AA	AD
	1.7	JBTN-1052BMSC	POWER BUTTON	S	AA	AD
⚠	2	GCABB1083BMKA	CAB-B(70ES-04S)	S	AP	AZ
	3	XTASB40P20000	SCREW	S	AA	AA





SERVICING NOTES

1. How to retrieve the IC6002 with scredriver (Flash Memory).

1.1.- Desoldering the Shield Case Cover.

1.2.- Introduce the screwdriver through the hole.

1.3.- Insert the screwdriver between the IC6002 and its socket. Push up the IC6002 with the screwdriver as in Figure 16.

1.4.- Retrieve the IC6002.

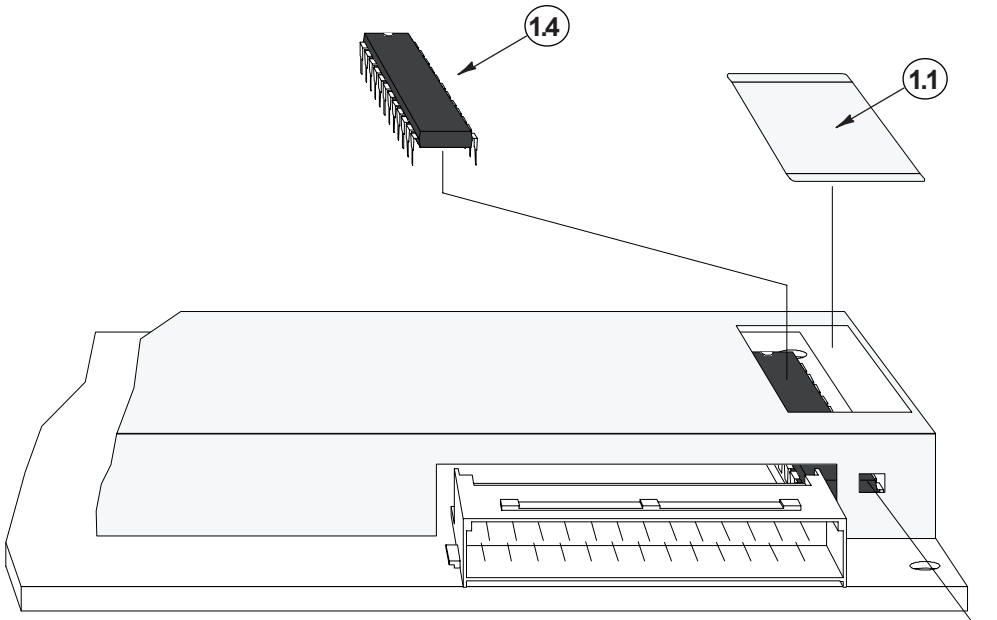


Figure 15: K7353BM Unit

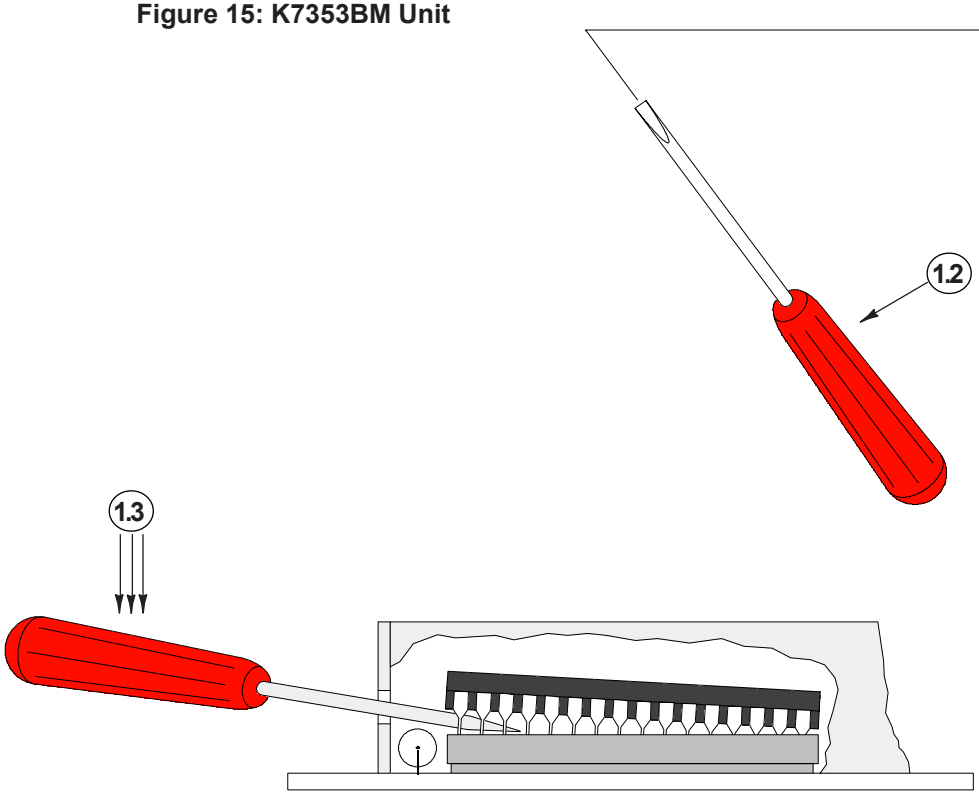


Figure 16: IC6002 Retrival Detail

2. How to retrieve the IC6002 with pincers (Flash Memory).

2.1.- Desoldering the Shield Case Cover.

2.2.- Introduce the pincers into the hole.

2.3.- Insert the pincers and take hold the IC6002. Pick up the IC6002 with the pincers as in Figure 18.

2.4.- Retrieve the IC6002.

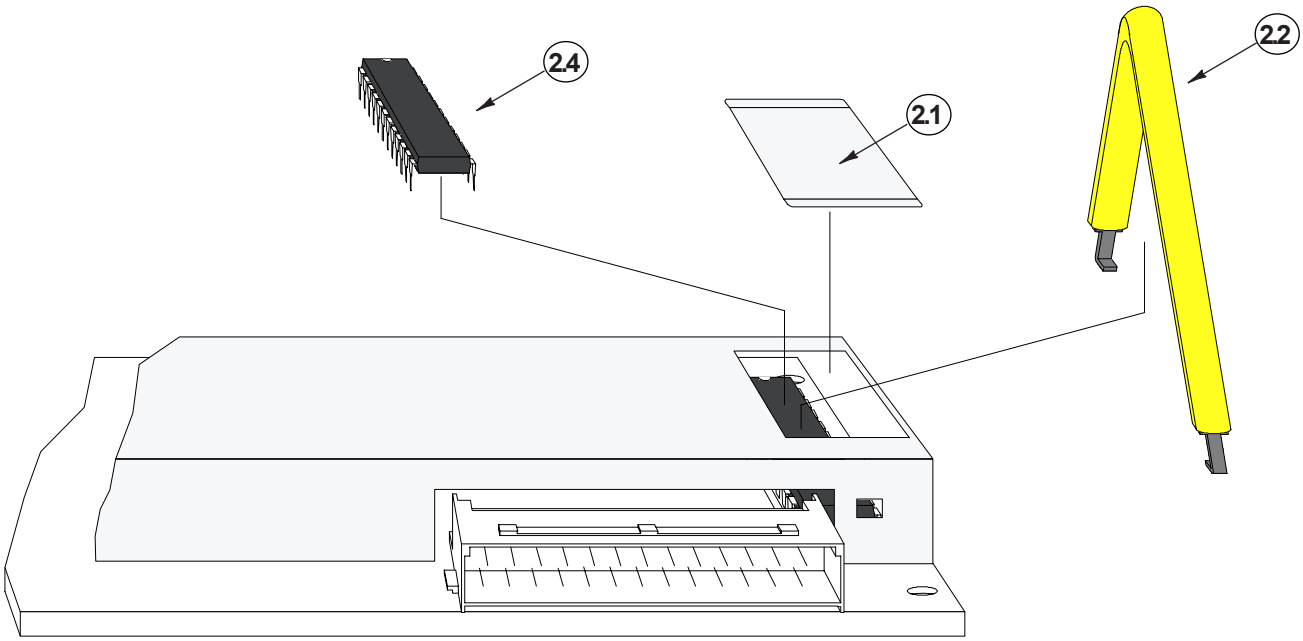


Figure 17: K7353BM Unit

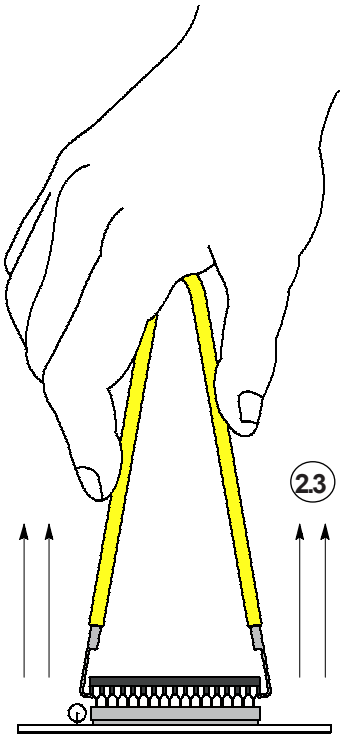


Figure 18: IC6002 Retrival Detail

3. How to rewrite data in NVM.

The NVM (Non Volatile Memory) is a read/write device which function is to keep data even in the case of TV set is switched off.

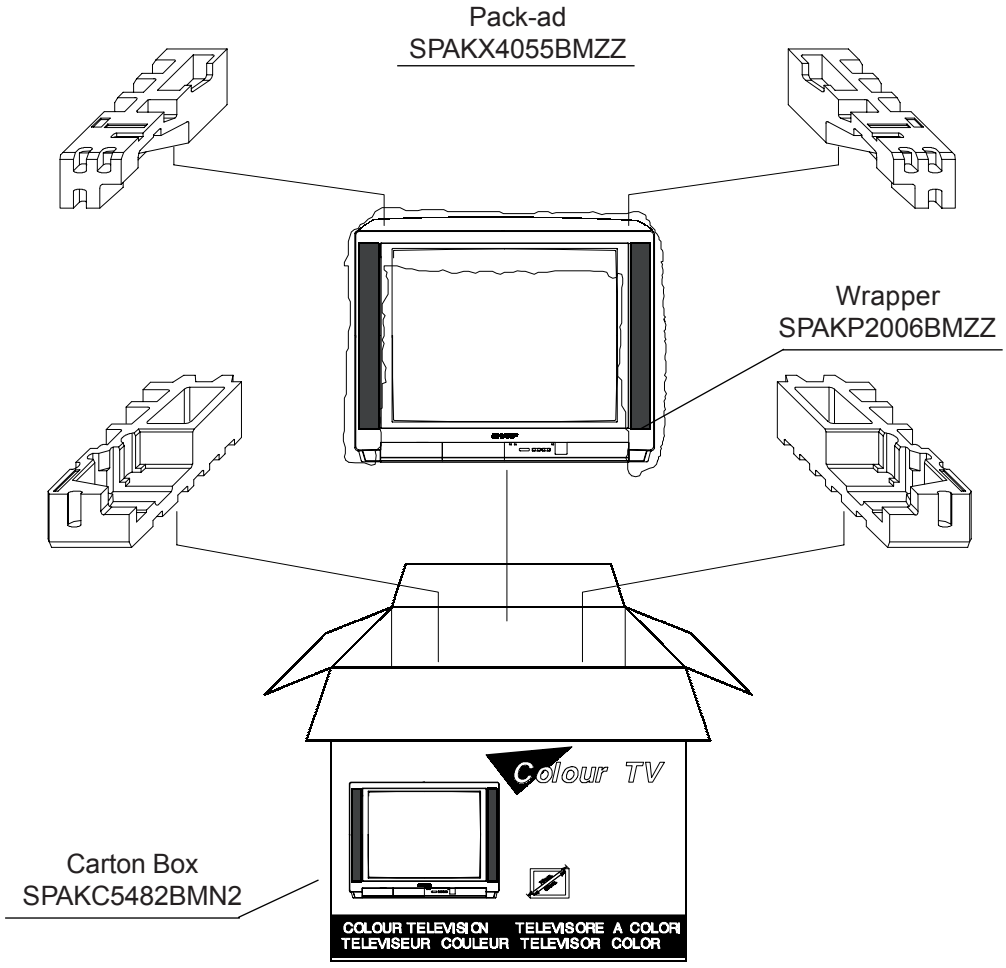
Part of these data is recovered every time the TV is switched on, and, of course, if user makes any change in the user settings (i.e brightness, contrast, etc..).

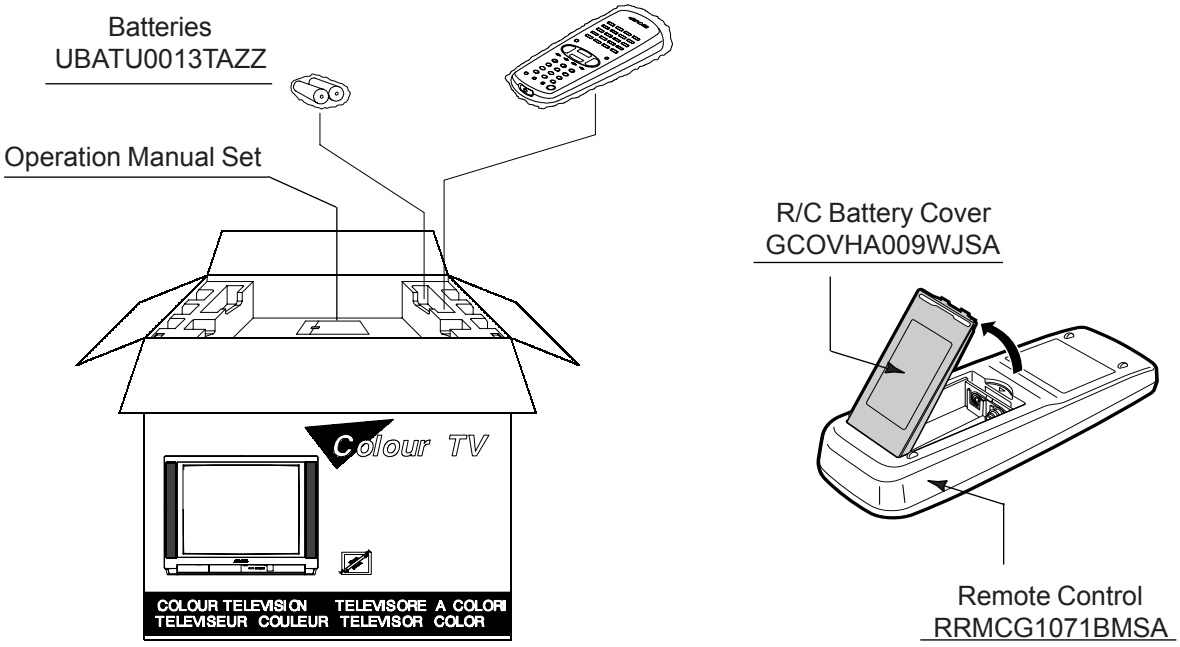
The NVM data could be corrupted if any external destructive action is carried out (Sparks of high voltage) or if a problem happens to the IC itself (defective IC or damaged IC). In order to keep the data uncorrupted, several protection countermeasures are implemented; one of them is to have a copy of all the NVM relevant parameters in the FLASH (which keeps the software for the microcontroller). So, the procedure to follow if the NVM IC is damaged or the data is lost is the following:

a) If the NVM IC is substituted for a new (BLANK) one, it is possible to write the NVM asking for the file which corresponds to the model or let the microcontroller write the default data which is written inside. This process is automatically carried out when the blank device (NVM) is soldered and TV is switched on for first time after the modification. The TV starting time is longer than normally due to the rewriting procedure. In both cases a new geometry adjustment should be done because of CRT and chassis tolerances.

b) If the NVM is corrupted and some data is lost, there are internal software protection to recover the data related with configuration of ICs but user data can be lost (some channel data or user settings for video, audio etc..). It is possible to recover this data forcing an auto installation and setting the user settings again.

4. Packing of the Set & Accessories





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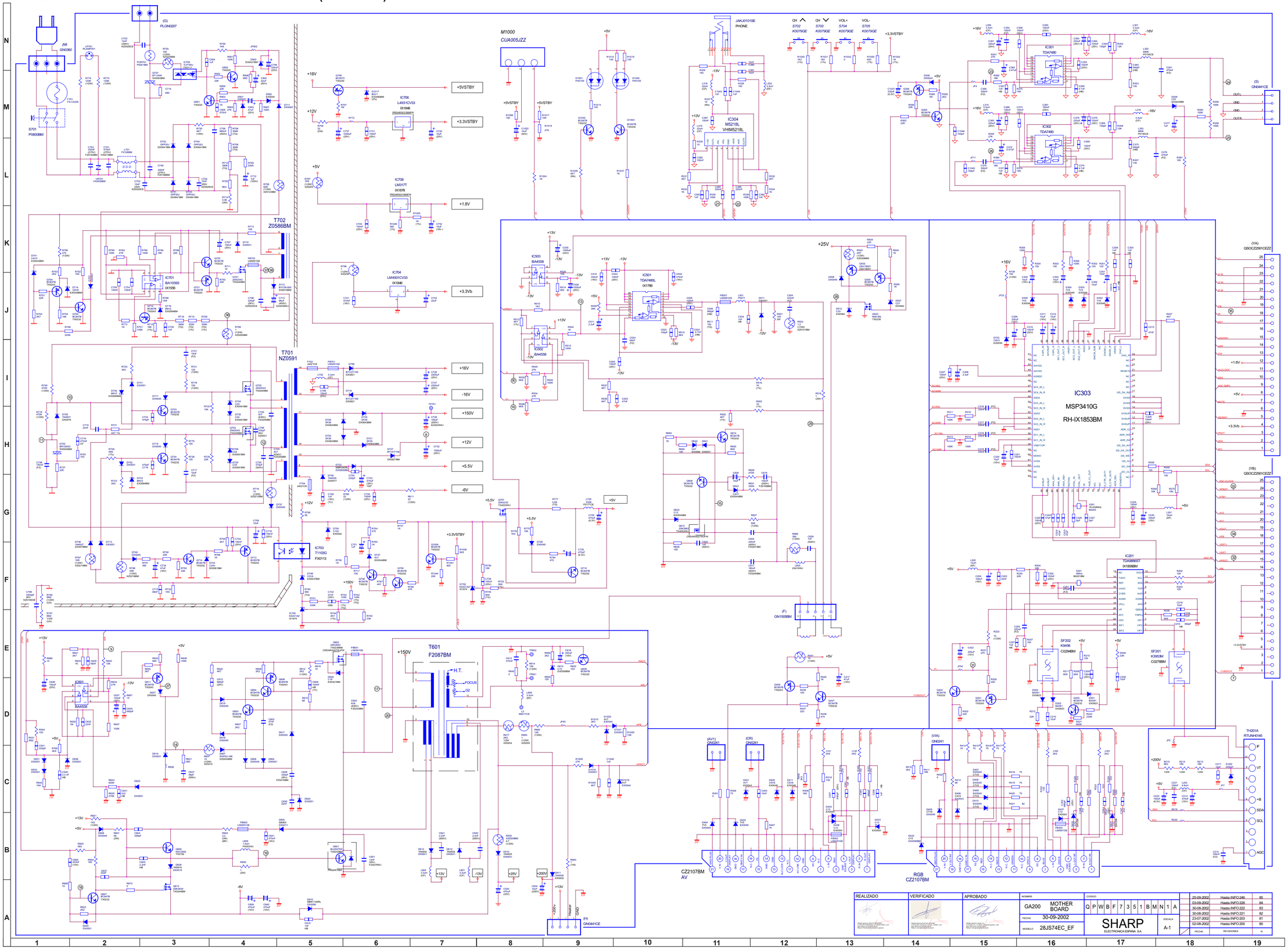
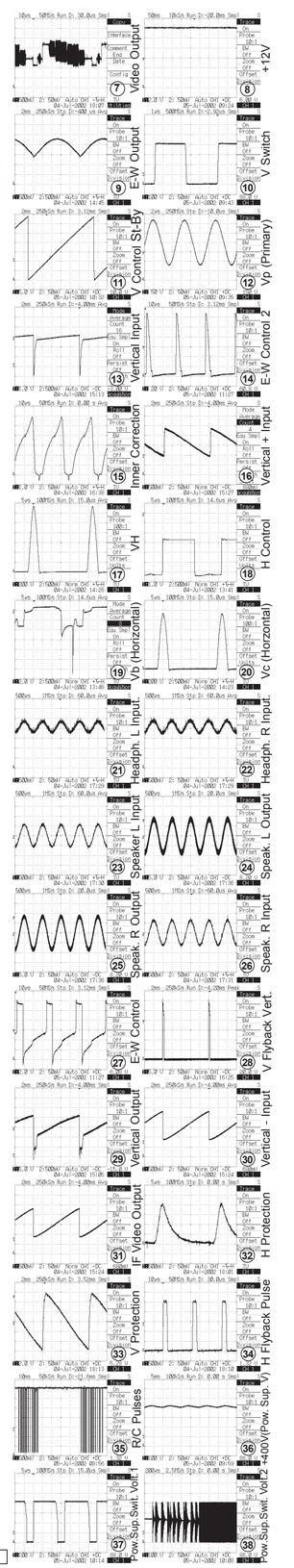
SCHEMATIC DIAGRAM OF MOTHER BOARD UNIT (F7351N1A)




Video Output +12V
E/W Output V Switch
Control St-by Vp (Primary)
Vertical Input E/W Control 2
Inner Correction Vertical + Input
VH H Control
L Input Headph. R Input
Speak. L Output Headph. L Output
Speak. R Input Speak. L Input
E/W Control Speak. R Output
Vertical Output Vert. Flyback Input
H Protection Vertical - Input
V Protection Video Output
H Flyback Pulse
R/C Pulses V Flyback Pulse
Pow.Sup.Swit. Vol. +400V(Pow. Sup. V) H Flyback Pulse
Pow.Sup.Swit. Vol. +400V(Pow. Sup. V)